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THE DEALERS' NATIONAL WEEKLY

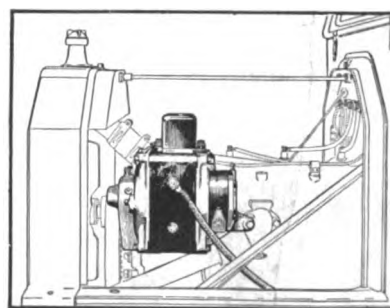
Volume XLIV
No. 1

New York, July 7, 1915

Ten cents a copy
Two dollars a year

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in Ford cars

**either as owners, prospective
owners, agents, or supply dealers**



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\$75

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Will be continued with same chassis and refined body.

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THE WILLYS-OVERLAND COMPANY

will shortly announce a New Car in the
\$1000 Class

A new standard of efficiency!

A new standard of flexibility!

A new standard of power!

A new standard of economy!

A new standard of durability!

Greater Value for less
money than ever before!

Deliveries in July.

Wait!

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, July 7, 1915

No. 1

Who Is to Blame— The Man or the Business?

If You Are Not Making a Profit from the Sale of Accessories and Supplies, Is It Due to the Business, to Local Conditions—or to YOU?

TO the car dealers and garagemen of California Motor World recently sent a letter in which these men were asked if they found it profitable to handle accessories and supplies and if they thought dealers and garagemen were losing money by not cleaning up, displaying the goods and making an effort to get this trade.

An analysis of the replies reveals the answer to the accessory problem as it exists in many places. The answer is that it is the fault of the

*It was a noble Roman, in Rome's Imperial day,
Who heard a coward croaker before the castle say:
"They're safe in such a fortress, there is no way to take it."
"On! On!" exclaimed the hero,
"I'll find a way or make it!"*

man himself and not of the business or existing conditions if he is not selling accessories and supplies and selling them at a profit.

Men in one location say, in these letters, that there is no money in selling accessories—and they tell the conditions which make this trade impossible and unprofitable.

Other men, up against exactly the same conditions, state emphatically

that they are making a good profit out of the sale of accessories.

There is but one conclusion. If what one man regards as conditions impossible of surmounting are easily overcome by another man—and an ordinary man—it must be because of the man.

The statements have been set down side by side. In the consideration of this evidence every dealer and garageman is a jurymen. The man on trial is the dealer or garageman who has locked his door to this opportunity for Greater Profits.

In This Column "Why It Can't Be Done"

Too close to the big city

This man is 33 miles from San Francisco and says this prevents him from carrying accessories.

We are too close to San Francisco to make it profitable to sell accessories. We carry none. The dealer may be losing some business by not paying some attention to accessories but there is not much inducement here to carry much of a stock.—(——) Garage, Palo Alto.

In This Column "How It Is Being Done"

This man is only 10 miles from Los Angeles, but he says his accessory trade is profitable and desirable.

I think a dealer should carry a full line of accessories and not charge such unreasonably high prices that the car owner will go to other stores. I find it profitable to carry accessories and plan to turn the stock at least twice a year—Compton Auto Co., per H. A. Chaffee, Compton.

“Why It Can't Be Done”

Not worth bothering with

These garagemen say they can't see the use in going so far as to have a man devote sufficient attention to the accessory department to build it up.

Personally I don't like the accessory trade, as I have not the time to give it the attention required, and the right men in that line are very scarce. We buy from local jobbers as required. Changes in price and equipment occur too frequently.—(———), San Jose.

Personally, we are losing by not putting our accessory department on a better basis. We could do so by putting an experienced man in the department, but there does not seem to be enough business to justify this expense. We are now carrying such necessary accessories as batteries, bulbs, tire pumps, tires, and tire accessories and turn it about every sixty days.—(———), Hanford.

“How It Is Being Done”

This man sees such a profit in accessories that he has built up a big department and is making money in it. San Jose and Pasadena are of nearly the same size.

The car dealer who neglect the accessory and supply end of his business is certainly losing a profit which will go a long way toward carrying his overhead on the other end of the business. We have worked this out to the extent that we have a supply department which is in a separate room from our car business and is run as nearly as possible as a separate business. We do not cut prices and endeavor to keep our stock free from junk accessories with which the market is flooded. The stock is valued at \$8,000, including tires, and we turn it four times a year.—A. L. Ryder, Inc., per C. W. Bradbury, Pasadena.

Can't compete with the accessory stores

This man says it isn't profitable to compete with accessory stores.

We do not find it profitable to handle accessories with cars in a town or city where there are accessory stores.—(———), San Diego. Population, 39,578.

This man says the live man gets the business, and he attaches no qualifying conditions.

The live man gets the accessory business. Very little in this locality is going outside the automobile trade.—F. E. Perrin, Berkeley. Population, 40,434.

Goods don't sell very fast

Sales don't amount to very much, so this man says.

Accessories are about the only thing left for the garage business in which there is a fair margin, but there is not enough sold by garages to warrant a large stock. We carry about \$2,000 worth.—(———), Garage, Stockton.

Sell, not merely take orders, advises this garageman.

Dealers and garagemen should buy in as large quantities as possible and display the goods; induce men on the floor to sell instead of merely take orders. We carry a stock of \$2,500 and turn about 20 per cent of it over every month.—Hamilton Square Garage, per G. E. Marshall, San Francisco.

Business is too hazardous

The business is too hazardous and price-cutting is discouraging. This is a wet blanket on the whole proposition.

We find it profitable to handle accessories but carry only a limited stock of standard articles. At present it is too hazardous because factories fail or change agents without cause.—(———), San Francisco.

I sell only a few accessories. Price-cutting is one of the greatest evils.—(———), Watsonville.

Motor World's suggestion is the solution of the problem. Stock the goods, display them and get the business.

The dealer and garageman are not getting the proportion of the accessory business which belongs to them, and as a solution there is nothing better than what is suggested by Motor World. Our stock is valued at about \$500 and we turn it three or four times a year.—R. A. Dodson, Atwater.

Just doesn't try

He is just letting the business slip out of his hands.

In our section the automobile dealer sells very few accessories, and very few carry any stock. The tire and supply business goes to special tire and supply houses.—(———), San Diego.

Advertise! Display! Go after the business and get it!

A dealer should go right after the accessory business by advertising and using display cases, well arranged. Accessories are a most important part of any business.—Peacock's Laguna Beach Garage, Laguna Beach.

“Why It Can't Be Done”

“How It Is Being Done”

Garage no place for them

The garage is no place for accessories. They should be in the accessory store. That summarizes these two statements. On the same basis, a drug store is no place for razors or cigars—but see the business it gets.

Advertise the fact that the garage is THE place at which to buy accessories. No garage should be without such a department. Put the goods in, push them and take full care of your customers.

It is impossible for every garageman to carry a complete stock. The guarantee on goods also conflicts with this business. The accessory house is the proper place for it.—(———), Sacramento.

My opinion is that the average garage is a poor place to handle accessories. We do not handle them.—(———), San Francisco.

The garageman and dealer are losing considerable business by not putting the accessory department on a better basis. The situation could be helped by advertising that the garage is the place to buy automobile supplies and by taking care of customers afterward. Our stock is valued at about \$1,000 and we turn it over every three months.—F. J. Krusick, Milpitas.

Garage of low business standards

One man says the business standards of the garage are low. Another man doesn't say it in so many words, but he admits he has shortcomings.

Arrange the stock neatly, take a brace and clean up. Motor World has advised this for a long time. Consider the question.

We believe the accessory dealer is below the business standard of dealers in other lines.—(———), San Francisco.

The dealer and garageman are certainly losing the accessory business. Our own is not what it should be.—(———), Napa Junction.

Some of the smaller garages keep a small stock and often they are not neatly arranged, which would be remedied if they took Motor World's Campaign for Greater Profits to heart.—E. L. Peacock Auto Co., per Leonard S. Beard, Oakland.

Goods turn over slowly

The stock turns too slowly to suit this man. He says hardware stores are getting a lot of his trade. His only solution is to sell so low other stores can't compete. Not a very good practice.

The demand for accessories ensures a quick turnover. It is trade that belongs to the garageman and which he can get if he goes after it.

I find little profit in the accessory business. I have had \$500 in stock at times. It is not a thing that can be planned. The trouble is the stock turns very slowly from the garageman's standpoint. I think hardware stores are taking a big profit from us, also the curbstone accessory dealer and pepper tree garage. I have no solution of the problem except to buy so as to sell at a figure that other stores cannot meet.—(———) Garage, Long Beach.

There is no doubt but that the automobile dealer, repairman and garageman are losing excellent opportunities to extend a trade which rightfully belongs to them. It is they who come into direct contact with the source of the demand, and, not being in a position to supply that demand, they let the dollars which they worked so hard to accumulate in their own endeavors walk out the door, enriching a business totally foreign to the trade. We advocate the sale of accessories by garagemen. The popular demand for certain accessories ensures a quick turn over.—Western Auto Sub Casing Co., per E. Maynard Harrison, Los Angeles.

Discouraged by price-cutting

Price-cutting competitors worry this man. He isn't pushing the stuff because of that.

This man pushes his stock and lets the price-cutter worry. He says he can't see much price-cutting in his dooryard.

We do not find it profitable to carry accessories because all the hardware men here sell them. What we do carry we turn possibly twice a year. The dealer is not justified in putting a lot of money in the accessory business because of the number of people handling them and cutting prices.—(———), Santa Maria.

It is profitable to carry accessories. We carry about \$500 worth, most of which is quick-turning stock. Our experience is that most of the price-cutting is done by people outside the motor car trade.—California Garage, per A. L. Ziegler, San Diego.

“Why It Can't Be Done”

Can't get the list price

This man can't get the list price. He doesn't stand up for his rights and push his goods.

We do not find it very profitable to sell accessories. There is too much price-cutting and too great a desire on the part of customers to get the cheapest thing rather than the best for the purpose. Uniformity of price under similar conditions would be the best remedy. Each would then get his fair share of business at a fair profit. Dealers anxious to get business cut prices and competitors meet this and go it one better and the only one who profits is the consumer, who could not think of cutting prices to an unprofitable basis in his own line of business, but seems to expect it of the automobile man.—(———), South Pasadena.

“How It Is Being Done”

Advertise! Have good goods! Have one price for every customer and stick to it. Don't buy unwisely. Turn the stock over often.

Handling accessories kills the overhead expense and is therefore profitable. Our stock is small and we turn it over twice a month or as often as is possible. The business can be built by consistent advertising, good goods and the same price to all. Don't get excited at what looks like a chance to save a few pennies by buying in large quantities.—Corpe Bros., Ford Garage, per O. S. Corpe, El Monte.

The accessory business is, in my opinion, a necessary department of any good wholesale or retail establishment.—Don Lee, Los Angeles.

And Here Are Ten Dealers and Garagemen Who See Only the Sunny Side of the Accessory Merchandising Question

We are rather inclined to believe that most dealers should carry a more complete accessory department, although it is hard to do this on account of so many rapid changes in accessory lines. We carry about \$6,000 worth, including tires, and turn the stock about twice a year. We carry only such accessories as do not become obsolete, as dead stock accumulates far too fast.—Letcher Garage, San Jose.

Turns It Every 3 Months

Our stock is valued at about \$3,500 and we turn it every three months.—Lord Motor Car Co., per Harry A. Lord, Los Angeles.

Admits He Loses Money

We believe the dealer and garageman are losing business by not going after accessories. We do not carry them.—J. A. Lane, Ferndale.

Small Stock and Quickly Turned

We carry about \$100 worth besides tires and turn it every three months.—Star Garage & Machine Wks., per W. J. Fink, Corona.

Makes His Money Work Hard

The dealers and garagemen are losing some business, but as a rule accessory dealers are getting a pretty good percentage of it. We carry a stock of \$25,000 and turn it over every sixty days.—James S. Remick, Sacramento.

Sells Everything Pertaining to Car

Accessories, parts and complete machine shop are profitable in connection with the sale of cars. We

carry about \$18,000 worth of parts and accessories. We believe we are the only concern on the Pacific Coast which aims to make or sell everything pertaining to the automobile.—W. J. Burt Motor Car Co., per W. J. Burt, Los Angeles.

Considers Opening Department

A dealer should handle all accessories, particularly those adapted to the line of cars he handles, but he should carefully avoid the misfortune of overstocking. We are not now carrying any accessories but I think it would be profitable to do so.—Western Motor Car Co., per Daryl Jewett, Oakland.

Fighting Hard Against Competition

While department and other stores are getting trade the dealer and garageman should have, I can advance no solution of the problem. Our stock is valued at about \$2,000 and we turn it every five months.—Theodore Hall, San Diego.

This Firm Is a Big Dealer

Our stock is valued at \$60,000. We believe in the great majority of cases dealers and garagemen are losing considerable business by not putting the accessory department on a better basis.—Chanslor & Lyon Co., per L. L. Lockhart, Oakland.

Says Trade Is Profitable

The dealer and garageman are losing considerable accessory business by not making a greater effort to get it. This line of trade is profitable. Our stock amounts to \$2,000 and we try to turn it every ninety days.—San Jacinto Garage, San Jacinto.

Rickenbacher Again Wins Sioux City Race

As Last Year, He Leads Field to Tape—Averages 74.7 Miles an Hour
In Maxwell—O'Donnell Second

SIoux CITY, IA., July 3—Rickenbacher, driving a Maxwell, won the 300-mile race here today on the 2-mile dirt speedway at an average of 74.7 miles per hour, a speed relatively slow in comparison with Indianapolis and Chicago speedways, and also slow as compared with a speed of 78.8 miles per hour made a year ago on this same dirt speedway here by the same Rickenbacher, when he won on a Duesenberg.

Today the track was slow, due to incessant rains, and scarcely more than 25 miles of the 300 were covered when the home stretch and one of the turns began breaking up, and from that time to the finish the race was a severe test of the skill of the drivers and the stamina of the cars. The test to which the cars were put by this unusual track condition is best explained by the facts that of the fifteen starters which were sent away at 12:30 sharp, only six were able to finish the 300 miles by 5:30 o'clock, the time set for the completing of the three centuries. The track was in good shape at the start but the 75-mile pace soon proved too much for it.

Rickenbacher Repeats

Today's race is the first important victory for Rickenbacher since he won on this speedway a year ago. He did not have matters at all his own way today. In fact, it was a neck-and-neck race from start to finish with a Duesenberg entry driven by O'Donnell. During the 300 miles the Duesenberg was never a lap behind the leader and for 10 miles O'Donnell led Rickenbacher's Maxwell. At the finish O'Donnell was less than 2¼ minutes behind the Maxwell. The fight between these two leaders might have been much closer had it not been that the Duesenberg was handicapped by a broken water pump, which made it necessary to run the last 4 miles of the race without water. Rickenbacher's time for the 300 miles was 4:00:56; and O'Donnell's 3 minutes and 21 seconds slower, his average being exactly 75 m. p. h.

These two contestants, Rickenbacher and O'Donnell, made the race from start to finish, and there were no other serious contenders for first or second place at any time.

Third honors went to Alley, driving another Duesenberg, who averaged 71.25 m. p. h. and was over 12 minutes behind Rickenbacher. Alley ran consistently 6

miles or three laps behind the leaders, and nearly 20 minutes ahead of the remainder of the field.

Chandler, in a third Duesenberg, was fourth, at an average of 68.85 m. p. h.; a Maxwell, driven by Orr, was fifth at 64.40 m. p. h., and a local White, driven by Shrunk, was sixth, averaging 61.20 m. p. h. These six were all the cars that finished. The performance of the Duesenbergs, finishing second, third and fourth, was the feature of the race, after the duel between Rickenbacher and O'Donnell.

Resta a Disappointment

Donaldson in the Emden and Cooper in the Sebring were flagged while they still had several miles to go; and the remaining seven of the fifteen starters dropped out, five of them being eliminated before the 70-mile mark was passed.

Of those eliminated, Resta, in his new Peugeot, winner of the recent Chicago race, winner of second place at Indianapolis, and winner of the Grand Prize and Vanderbilt cups at San Francisco, was looked upon as the greatest disappointment, as this entry played a major part in attracting many of the 20,000 spectators. Resta was never a factor; in fact, he never seemed interested in the race. He considered the course dangerous and went out at the end of 12 miles with a broken oil lead and a broken bolt in a crankshaft bearing. While running he did not at any time appear to challenge Rickenbacher and O'Donnell, who were leading from the start.

The Only Accident

Only one accident marred the running of the race, and unfortunately this proved to be serious. C. C. Cox, driving the Ogren, was injured, and his mechanic, McGraw, also injured, when Cox swung out to permit Rickenbacher to pass. At this moment Cox saw another car coming up behind and swung back again, but in doing so struck wheels with Rickenbacher, which threw Cox to the side, the car going through the outside fence and turning over. The wheel on Rickenbacher's Maxwell was slightly damaged, the most serious aspect of it, however, being the delay necessary to change. Rickenbacher almost had to go through the fence to avoid crashing into the wreck. He was able to keep his car from upsetting and continue the race

THE SIOUX CITY RESULTS

Driver and Car	Time	M.P.H.
Rickenbacher, Maxwell	4:00:56	74.7
O'Donnell, Duesenberg	4:03:21	74.0
Alley, Duesenberg	4:12:31	71.25
Chandler, Duesenberg	4:33:21	65.85
Orr, Maxwell	4:39:40	64.40
Shrunk, White	5:54:08	61.20

without losing the lead. Cox had his right leg broken and some ribs fractured, and the mechanic sustained fractured ribs and a dislocated shoulder.

(Cox died July 6.)

In the duel between Rickenbacher and O'Donnell, Rickenbacher took the lead at the end of the first lap and was at once pursued by O'Donnell's Duesenberg, together with Alley in the other Duesenberg. Resta's Peugeot was back in the field. At the end of the second lap the three leaders were making a run-away from the rest of the field and had lapped some of the other entries. Resta was running in seventh place. At this early point in the race the Sebring stopped at the pits as did the National.

At the end of 20 miles Rickenbacher was leading O'Donnell's Duesenberg by fewer than 10 seconds, the Maxwell having averaged 75.5 m. p. h., covering the 20 miles in 15.42. Alley in the second Duesenberg was less than 1 minute behind the leader. Resta's elimination at the twelfth mile was due to two causes, first, a broken oil lead, and second, a broken center bearing bolt, which holds the outer ball race for the ball bearings supporting the crankshaft in position. The main oil lead had a rubber connection at its lower end and it was this connection which punctured, allowing all of the oil flowing through it to drop outside of the motor.

O'Donnell a Close Second

At the end of 40 miles Rickenbacher had his Maxwell still in the lead, having averaged 78.9 m. p. h., O'Donnell had his Duesenberg but 10 seconds back of him, and the second Duesenberg was trailing less than a minute back of the Maxwell. Soon Alley had to stop at the pits for some motor adjustment, which placed him three laps behind, but which did not endanger his third position as he was running more than 6 miles ahead of the rest of the field.

Sixty miles saw Rickenbacher, O'Don-

nell and Alley running one, two, three, and miles ahead of the others. At this point the Maxwell averaged 76.6 m. p. h., O'Donnell was now 20 seconds back and Alley 6 miles behind. O'Donnell all the time was making a persistent fight to overtake the speedy Maxwell but the dirt turns were getting so badly cut up and the homestretch was so rough that it was dangerous to attempt passing at this speed.

O'Donnell Takes Lead

At 80 miles the positions remained unchanged, Rickenbacher averaging 76.6 m. p. h., O'Donnell was holding his position, Alley was 5 miles back, and 8 miles to the rear came the next group of drivers led by Orr in the Maxwell, with Chandler in the third Duesenberg pursuing him. The White, Emden, Sebring and Mulford were trailing.

By leading at 100 miles Rickenbacher won the \$500 prize for premier position at this point, his average being 77.55 m. p. h. and his time for the distance 1:18:24.30. O'Donnell was 1 minute and 16 seconds behind him.

It was soon after this that Rickenbacher's collision with Cox nearly cost him the race, and when he was signaled to stop at the pits and change the damaged wheel, many of the spokes of which were loose, O'Donnell took the lead, passing the pits just as the Maxwell was getting out after changing the wheel. The Duesenberg lead was short lived as Rickenbacher had his Maxwell in the lead in less than 2 miles, due to O'Donnell having to stop at 116 miles to replace a punctured tire.

Course Gets Worse

From 116 to 126 miles there was a neck-and-neck struggle between Rickenbacher and O'Donnell, with O'Donnell leading at 120 miles with a margin of less than 2 seconds and maintaining an average of 78.5 m. p. h. Rickenbacher was able to take the lead at 126 miles and was never headed from that point. At 130 miles he had increased his lead to 16 seconds; at 140 miles it was 26 seconds, the average maintained being 75.3 m. p. h. At this time the course was getting rough with dust rising in clouds on the turns. On the homestretch the best part of the track for the cars was a narrow one, well towards the outside fence. Some of the slower cars started driving on this track and several of them had to be signaled by the officials because that was the part of the track on which the higher speed cars should travel. Because of this trouble some of the faster cars had to pass on the wrong side, namely, next to the pole. At 150 miles Rickenbacher was signaled to stop and cautioned against passing on the wrong side, and it was while he was being warned that O'Donnell came down the stretch and it looked as if he would take

Rickenbacher Wins Omaha 300-Mile

Makes 91.74 Miles an Hour on Mile-and-a-Quarter
Speedway—O'Donnell Second

THE OMAHA FINISH

Driver	Car	Time	Average
Rickenbacher	Maxwell	3:17:32.2	91.74
O'Donnell	Duesenberg	3:30:37.7	86.16
Orr	Maxwell	3:40:17.3	82.3
Donaldson	Emden		62.39
Brown	Du Chesneau		Flagged at finish
Alley	Duesenberg		Out at 10 miles, burned bearing
J. Cooper	Sebring		Out at 95 miles, burned bearings
Chandler	Duesenberg		Out at 112 miles, cracked cylinders

the lead from the Maxwell, but instead he pulled into the pits for his first stop and the Maxwell was able to maintain its lead. O'Donnell replenished with gasoline, oil and water in 10 seconds.

Rivalry Among Trailers

At 160 miles Rickenbacher was averaging 74.3 m. p. h. with his Maxwell. O'Donnell was 1 minute and 20 seconds behind him, and Alley was holding the other Duesenberg in third place 6 miles to the rear. The other positions were Orr's Maxwell, Chandler's Duesenberg, and White, Emden, Sebring and Mulford bringing up the rear at a pace of 40 miles per hour. None of the trailers had stopped at the pits up to this time, and as there was the silver trophy for the car running the greatest distance without a stop, the rivalry among these trailers was interesting. Orr surrendered his chances by stopping at 172 miles, White stopped at 192, thus letting Chandler win with his Duesenberg by making 224 miles, at which time he made his first stop, taking on fuel. Up to this time the Duesenberg and White had been running in the same lap the entire distance.

Mulford Catches Fire

Up to this point, 160 miles, the position of the leaders remained unchanged until the end of the 300 miles. Rickenbacher led at the end of 200 miles, taking the \$500 for leadership at this point. His average was 74.5. O'Donnell's Duesenberg was 1.5 minutes back.

When the finish of the 300 came, Rickenbacher's lead was just 2 minutes and 14 seconds on the Duesenberg. The Maxwell's average was 4.1 m. p. h. slower than the time made by Rickenbacher a year ago, when he won the race with a Duesenberg.

Ralph Mulford, in his Mulford special, who had reduced his speed to about 35 m. p. h., caught fire 98 miles from the finish, thus leaving the Emden and Sebring the only cars that were running at the finish.

OMAHA, July 5—Eddie Rickenbacher, in a Maxwell, won the 300-mile race here today in 3 hours 17 minutes 32.2 seconds. His average was 91.74 miles an hour, which is 1.9 faster than the 89.84 made by De Palma on the Indianapolis Speedway May 31. Twenty-five thousand people witnessed the contest on the mile-and-a-quarter track.

Second to the tape was O'Donnell in a Duesenberg in 3 hours 30 minutes 37.7 seconds, an average of 86.16.

Third was Orr in a Maxwell in 3 hours 40 minutes 17.3 seconds, an average of 82.3.

Of the eight starters the only other that finished was the Emden, driven by Donaldson, who averaged 62.39.

Track Faster Than Cars

The Du Chesneau, driven by Brown, was flagged at the finish. It did not appear on the track until more than 100 miles had been run, but was permitted to enter.

Alley's Duesenberg dropped out at 10 miles with burned bearings.

Cooper's Sebring quit at 95 miles with the same trouble. Chandler's Duesenberg stopped at 112 miles with cracked cylinders.

Before the start of the race Orr broke the world's record in an exhibition of five miles. He made the distance in 3 minutes, a speed of 100 miles per hour.

The track was much faster than the cars, but few of the drivers cared to climb high on the steep bankings to pass other cars. It was feared that trouble would result if a tire blew out high up on the turns. The day was very hot, which increased the caution of the drivers, but only four tires were changed—one each by Rickenbacher, Orr, O'Donnell and Donaldson.

Rickenbacher took the lead when Starter Wagner sent the cars away at 12:40 o'clock, and during the first 25 miles there was a merry chase between Rickenbacher, O'Donnell, Chandler and Orr. It was an even contest during the

Ruckstell Wins the Big Tacoma Event

first quarter-century, which was made in 15 minutes 18 seconds, an average of 98.

At 50 miles Rickenbacher still led with a time of 30 minutes 46 seconds. Having this lead, he slackened speed during the next 25 miles and at 75 was leading with an average of 97.5.

Between 75 and 100 miles O'Donnell strove hard to overtake Rickenbacher, but the latter maintained his lead and captured the \$250 prize for being ahead at this distance. His time was 65 minutes 28 seconds, an average of 91.65. The order at 100 miles was Rickenbacher, O'Donnell, Orr, Cooper, Donaldson, Chandler and W. Brown, who had just come onto the track.

At 200 Miles

At 200 miles the order was unchanged except that Cooper was missing in the line-up. Rickenbacher took another \$250 for this distance and was 10 laps ahead of O'Donnell, who stopped at 190 miles for a tire. Rickenbacher's time for the 200 was 2 hours 10 minutes 44 seconds, an average of 91.79.

At 250 miles the order still continued unchanged except that Chandler was out, having worked unsuccessfully for an hour to replace a burned connecting rod bearing. The time for the 250 miles was 2 hours 44 minutes 52 seconds, an average of 90.98.

At the finish the order was the same with Rickenbacher about 10 laps ahead.

The only real excitement was the brushes between Rickenbacher, O'Donnell and Orr. The winner stopped twice, once at 71 miles for a tire and at 226 miles for supplies. O'Donnell stopped at 35 miles with spark plug troubles, at 186 miles for supplies, at 192 miles for a tire, and at 215 miles for plug trouble. He lost in all about four minutes. Orr stopped at 26 miles with mechanical trouble, at 105 miles for a tire and at 272 miles for supplies.

O'Donnell Has Bad Slide

Between 150 and 200 miles O'Donnell slid down the bank for some unknown reason and nearly overturned his car when it hit the soft dirt at the bottom, but he was delayed only a few seconds. In order to pass a car which was driving on the center of the track it was necessary to travel nearly 100 miles an hour. When Rickenbacher had a four-lap lead he was flagged.

Rickenbacher used the same equipment at at Sioux City, except that his tires were Silvertown cords. O'Donnell's was the same except that he used Rajah plugs and Silvertowns. Orr's was the same except for Silvertowns and a Zenith carbureter. The others were the same as at Sioux City except that Silvertowns were used on all but the Du Chesneau.

Takes Montamarathon in Fast Time- Carlson Meets End

TACOMA, WASH., July 5—The 2-day racing on the newly planked 2-mile speedway yesterday and today, evolved three popular winners in the three races held in conjunction with the Montamara festival:

Ruckstell, in a Mercer, winning the 250-mile event, at 84.8 miles per hour or 11.4 miles per hour faster than the time made by Cooper in the Stutz last year.

Pullen, also in a Mercer, captured the 200-mile race at 85.2 miles per hour, or 11 miles faster than the time made by Hughes' Maxwell in 1914.

Parsons, in the Parsons special, duplicated his feat of last year, in winning the 100-mile Intercity grind at 80 miles per hour, or 6.4 miles per hour faster than the time he made last year in the Frantz.

The main factor in the great increase of average speed was the plank surface of the 2-mile track which was much better adapted to high speed and less conducive to skidding than the dirt surface over which the races were run last year.

Five Finishers

Second to Ruckstell in the 250-mile Montamarathon Trophy race was Earl Cooper in his Stutz, who finished at an average speed of 84.22 miles per hour. Pullen's Mercer was third at 84.20. Burman was fourth, sending his Peugeot over the course at 79.5 miles per hour, and Oldfield, also in a Peugeot, was fifth at 75.8. Cooper made the fastest of the 129 laps of the race, covering the course at an average speed of 89 miles per hour.

Thirteen cars started in the race, the five mentioned being the only ones to finish. Ruckstell led most of the way by one or two laps, and from the 105th circuit was never headed, although the winners were but a few yards apart at the finish. Cooper drove a beautiful race, going to the pits once in the 103rd lap, and at the finish was driving carefully on worn tires rather than risk a delay at the pits in making a change.

The eight-cylinder Romano ran steadily until the 43rd lap, when it took fire and was burned. The Gordon special skidded dangerously three times in the 114th lap on a curve ahead of Cooper, but by wonderful control Elliott managed to slide clear amidst the cheers of the 30,000 spectators who braved the heat to watch the speed carnival.

Driving on the back stretch on the 6th lap Carlson's Maxwell left the course, a tire blowout on a steep curve throwing it over a 30-foot embankment. Franzen,

MONTAMARATHON TROPHY

(250 Miles)

Car and Driver	Time	M.P.H.
Mercer, Ruckstell.....	2:57:00	84.5
Stutz, Cooper.....	2:58:05	84.22
Mercer, Pullen.....	2:58:55	84.20
Peugeot, Burman.....	3:08:44	79.5
Peugeot, Oldfield.....	3:17:58	75.8

INTERCITY TROPHY

(100 Miles)

Car and Driver	Time	M.P.H.
Parsons Special, Parsons.....	1:15:27	79.5
Gordon, Elliott.....	1:20:28	74.7
—, Barsby.....	1:35:06	63.2
Studebaker, Staley.....	1:42:30	56.2
Ford Special, Erdman.....	.....	...

mechanician, was thrown onto a stump and his back broken, killing him instantly. Carlson was rushed to the hospital with a crushed head and internal injuries, and died this morning without recovering consciousness.

The fate of the other cars was as follows: The Schneider special broke a piston in the seventh lap, the Marmon dropped out in the 30th with engine trouble, Parsons' special broke a camshaft in the 33d circuit, the Stutz driven by Lewis burned out a bearing in the 78th, while Hill's car broke its radiator in the 91st. The Gordon dropped out in the 117th circuit with engine trouble. The Mercedes failed to report to the committee.

Parsons set a new record for the 100-mile Intercity Trophy race, covering the 54 laps in 1:52:27, or at an average speed of 79.5 miles per hour. Elliott, in a Gordon, was only three laps behind him, averaging 74.7, with Barsby third at 63.2, Staley's Studebaker fourth at 56.2 and Erdman's Ford special fifth.

Forbe's Buick dropped out in the 10th lap with engine trouble and Schneider's special was forced to retire in the 31st. Thomas's Mercer dropped out in the 39th with engine trouble, followed by O'Brien's Stutz in the next lap for the same cause. The Malcolm special left the race in the second lap and engine trouble stopped the career of the Tacoma special in the 16th circuit. Stratton's Mercer special had engine trouble and its entry was scratched.

Pullen Wins Potlatch

Pullen won the Golden Potlatch Trophy 200-mile race this afternoon in 2:21:14.4, or an average of 85.2 miles per hour. Earl Cooper sent his Stutz over the line for second place, and Barney Oldfield's Peugeot was third.

The cash prizes for the 2 days' racing totaled \$10,500. Those for the 250-mile Montamarathon were \$5,500, for the 200-mile Potlatch, \$3,500, and for the Intercity Century, \$1,500. The races were run under the management of the Tacoma Speedway Assn., Inc., and under the auspices of the Mountainview Automobile Club.

Put Standard Service Policy into Print

Convention of Service Managers Was of This Opinion—Many Recommendations Made at Detroit Meeting

DETROIT, June 30—Further impetus to the movement for a standard service policy was given by the Service Managers' convention of the N. A. C. C., which was in session at the Hotel Statler here today and yesterday. Service men and other officials of motor car and truck plants from all parts of the country were in attendance. Alfred Reeves, general manager of the National Automobile Chamber of Commerce, presided.

Committee to Formulate Policy

A committee was voted to formulate into a standard policy the ideas of the convention as to what should constitute the service the dealer should render the purchaser of a car. It was also voted to recommend to the N. A. C. C. that it start an advertising campaign to aid in telling the owner what he should expect in the way of free service, and also to get in touch with the various local trade organizations along this line. It was the majority attitude that general repairshops should not be given discounts on parts, this being against the ethics of dealer protection.

Different service policies for passenger cars and trucks were deemed necessary, due to the diverging conditions entering into the work of the two classes of vehicles. The need for censoring dealers' parts orders was brought out, this applying especially to the small dealer, whose experience does not make him as good a judge of what parts he should carry as is the manufacturer. Much discussion of the C. O. D. method of payment for parts ordered was had, and most agreed that though it has its drawbacks, it is the best policy to pursue, taken from all angles.

Service Policy Backbone

That there is a crying need for some form of standard policy on the matter of service which the car owner gets free from the dealer, there was little doubt. As Mr. Reeves put it, a standard policy would be a printed backbone in the hands of the dealer. It would cut out the cut-throat competition on service which is now doing much to ruin dealers' business.

In fact, the matter of a service policy was the real cause of the convention, for it was desired to get some expression on the subject from the service men.

Alvan Macauley, vice-president and

general manager of the Packard company, thinks that service and a standard policy are the vital things of the business now. Whether the manufacturers get this service down to a reasonable basis and hold it there will largely govern their staying in the business, he said. Dealers have to contend with all sorts of customers, such as women, men trading on their name, etc., and most of these are good bargainers who will get all they can for nothing. As this gratis treatment often eats up the dealer's profit, all must get together and have an understanding of what constitutes the service to which the customer is entitled.

A. B. Cumner, service manager of the Autocar Co., believes the time is ripe for such educational campaigns as will acquaint the public with what service should consist of. Mr. Reeves explained that the prime reason for a standard policy is that nearly every dealer handles several makes of cars, and if there is not some standardization in the service he is to render all buyers, he is likely to hold the manufacturer with the best policy up as an example to the others.

"Coerced Service" Common

E. W. Cotton, secretary, McFarlan Motor Co., used the term "coerced service" to describe the kind of service which the dealer often is obliged to give under the present conditions. The hint of buying a new car often is the bait which makes a dealer do more than he should for a car owner.

In establishing what he thinks constitutes service to the owner, Charles Gould, manager of service, Maxwell Motor Co., laid down four main points to which the dealer should pay special attention: 1—Parts; 2—Repairs; 3—Supervised instruction regarding the car; 4—Cooperation with the owner.

In connection with the first of these, a sufficient supply of parts located so as to get them to the customer quickly is very important. Accidents, the lack of oil and grease in the machine, driving and temperamental differences between owner and dealer are not points which should come under the definition of free service. The owner ought to know exactly what gratis service he will get, and before any repairing is done he ought to be told how much it will cost, if it is possible to tell him. The manufacturer

should really be the umpire between the dealer and the owner in the matter of disputes, Mr. Gould believes.

J. B. Joy, technical and service department, Peerless company, said that there should be little variation in the opinions of the delegates on this service matter. Installing a vehicle properly after the sale was emphasized by him as a part of service, and further than that the manufacturer should stand on whatever he feels morally obligated to deliver.

Customer Expects Too Much

W. H. Doddridge, service manager, the Winton Co., pointed out that the customer has been spoiled in most cases until now he expects everything he can get. Any standardization will have to be flexible, he thinks, so long as owners have different ideas. Much of the imposing on dealers is due to the overworking of such words as "booster" and "big man." These are used by persons trying to get something for nothing from the dealer. Salesmen are also responsible for a lot of the service evil, for, when selling cars, they imply a great many things that the dealer is unable to do free. They use another overworked phrase, "Leave it to me."

E. T. Klee, service manager, Stutz company, is against the practice of having road repairmen, as they disrupt organizations, cost money and make it too easy for the customer to get a lot of service free to which he is not entitled. The dealer should not have a territory so large that he cannot send a repairman at small expense from his own shop.

Much of the service trouble begins in the sales department in the opinion of A. J. Banta, Chicago branch, Locomobile Co., who says that more is given away by the service department in making good the extravagant promises of the sales department than in any other way. Service means everything for nothing with the salesman.

Say Little About Service

That the salesman should keep service as far in the background as possible is the view of G. E. Drawe, assistant secretary and treasurer, Pathfinder company, who emphasized the fact that the car buyer is usually a better salesman than the car salesman, else he would not have the money to buy a car. Thus, he sells the car salesman for whatever he

wants in the way of free service and accommodation.

A. B. Hanson, Chalmers service manager, quoted the printed text of his company's idea of service. It is that service does not mean giving something for nothing; it means giving prompt attention at the least possible cost.

Mr. Cumner offered two good definitions. Service, he said, is the providing of all necessary means of keeping a car running, while free service is the taking care of mistakes and conducting an educational campaign.

H. W. Drew, service department, Nordyke & Marmon Co., pointed out that service is doing as much as possible for the owner at the least possible expense. He thinks a lesson might be drawn from the service rendered by certain of the parts makers, such as storage battery people and electrical equipment makers. Service should be more educational and less individual, Mr. Drew aptly put it. If better information were put into instruction books, and if letters were sent to owners from time to time on the care of various parts of the car, much could be accomplished.

Service Policy Should Go Farther

The question of whether or not the dealer's service policy should go farther than the manufacturer's warranty was generally answered in the affirmative, it being considered that this warranty refers specially to defective material and workmanship. Then, the dealer's policy refers to a special field and it varies.

It is a ticklish question and one that is hard for the manufacturer to dictate, Mr. Drew said. The successful dealer has devised special methods which apply to his community, and he is naturally more familiar with his clientele than is the manufacturer, and he naturally should radiate on the manufacturer's guarantee. The small and weak dealers, Mr. Drew believes, are the ones who need an educational campaign the most, and he is fully in accord with the idea.

H. H. Carpenter, service manager, Saxon Motor Co., thinks the service given by dealers is a cut-throat proposition which is done to sell cars, promising anything to make the deal. He agrees with an educational campaign to make a common ground for all to work upon.

On the other hand, Percy Owen, Chalmers general sales manager, believes in definitely stating what the dealer should do in the way of service. He outlined the policy which his concern is operating upon, explaining the distinction made between what is termed technical service and shop service or full repair work. The technical service, which takes in thorough inspection and adjustment of the car, is what the dealer is instructed to render free for a stated period. The dealer also absorbs the labor cost on replacement parts which the manufac-

turer sends free, this within reasonable limits, of course.

Truck salesmen are superior to passenger car salesmen in the opinion of L. L. Virgil, service manager, Thos. B. Jeffery Co., who says that he has no special trouble through salesmen promising more than the factory can do.

Before anything can be done on the matter of starting an educational campaign on service, the committee will have to decide on what policy is to be followed, and then this will have to be approved by the head officials of the various companies through the N. A. C. C., Mr. Reeves explained.

Different Policies for Trucks

Up to a certain point, service policies for passenger cars and trucks can be the same, but the work they have to do and the attitude of the owners are so different that it seems advisable to lay down separate policies for the service treatment of the two classes of cars. This was the gist of the paper which Mr. Macauley read on the subject.

The particular policy for service which is laid down is not important. It is the placing of something definite in the salesman's hands that is important, Mr. Macauley said. Let the owner know exactly what to expect.

Representatives of White, Reo, and others who make both cars and trucks, said that their policies for the two classes of vehicles differ, generally more leniency being exercised with the trucks.

Censoring Parts Orders

How the manufacturer can assist in preventing dealers from overstocking and being obliged to return obsolete parts was ably dealt with by C. W. Matheson, director of service, Dodge Bros., who said that parts orders should be carefully looked into to prevent unnecessary investment and loss to manufacturers through having to redeem obsolete parts later. When a maker contemplates a change, dealers should be advised so as not to put in orders for parts soon to be superseded. He advocates a card ledger system, crediting and debiting it as parts are added or taken out. This is for the dealer. By taking into account the average selling rate of cars in any territory, it is easy to arrive at the average consumption rate of parts, and this procedure should be carried out in connection with orders. Mr. Matheson believes in giving a dealer a time limit of 1 year after which it becomes optional with the manufacturer to redeem obsolete parts.

There was much discussion of just what an obsolete part is, and several other terms were suggested. But this did not lead anywhere.

R. E. Wihans, service manager, Paige company, suggested taking the experience of other dealers in suggesting to

new dealers how many parts to carry in proportion to the number of cars.

Summing up the discussion on this topic, it was agreed that the main object is to supply the consumer, so that nothing should be done that would curtail the quick service on repair parts. There was some sentiment for penalizing the dealer for the lateness of return of superseded parts; that is, discounting them after a certain time. It was also recognized that geographical conditions might make one part more important in one locality than another. It was considered a good thing to use a maximum and minimum scheme, whereby the dealer is required to order more of each part when the number on hand falls to a set minimum.

Austin Wins Cadillac Appeal

CINCINNATI, O., June 30—The United States circuit court of appeals today confirmed the decision in favor of Walter S. Austin, of the Austin Automobile Co., Grand Rapids, Mich., against the Cadillac Motor Car Co., Detroit, which was rendered in January, 1915, by Judge C. W. Sessions in the United States district court of Grand Rapids, that the Cadillac company had infringed the Austin two-speed axle patent No. 1,091,618.

The amount of the damages which Mr. Austin will be able to collect in the event a rehearing is not granted, cannot be determined until an accounting has been made of the number of two-speed axles made and disposed of by the Cadillac company.

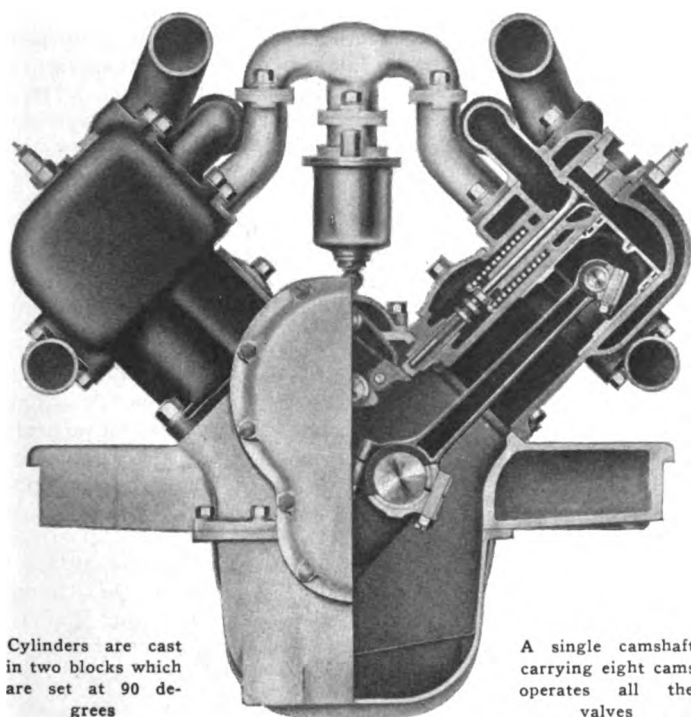
U. S. Rubber Passes Dividend

NEW YORK, July 3—The regular quarterly dividend on common stock of the United States Rubber Co. has been passed and much speculation is being indulged in as to why the company has not declared this dividend which it has been paying quarterly since the middle of 1913. In 1912 the company paid 4 per cent on the common stock and in 1911 1 per cent. The usual 2 per cent on first preferred and 1.5 on second preferred were declared. Samuel P. Colt, president of the company, in a message to stockholders, explaining the passing of the dividend on common stock, says that the earnings are on a par with last year but that the unexpected prolongation of the war has brought up business uncertainties which make it necessary to have an unusually strong financial position. The necessity of carrying a larger supply of crude rubber is advanced as one reason for needing more ready cash.

At present the outstanding common stock is \$36,000,000, which, paying 6 per cent, means annual dividends of \$2,160,000. It is known that the U. S. Rubber Co. has invested heavily in rubber plantations in the Far East and has capital tied up in this way.

Apperson Offers an Eight and Two Sixes

Eight and Small Six New Models—Four-seated Roadster a Novelty



Cylinders are cast in two blocks which are set at 90 degrees

A single camshaft carrying eight cams operates all the valves

APPERSON 1916 SPECIFICATIONS

Price—	Eight	6-16	6-60
7-passenger	\$1,850	\$1,550	\$2,350
5-passenger .....	.....	1,485	....
4-passenger roadster	1,850	1,550	....
Make of motor.....	Apperson	Apperson	Apperson
Shape	L-head	L-head	T-head
How cast	Two blocks	Block	Block
Bore	3 1/8	3 1/4	4 1/4
Stroke	5	5 1/8	5
S. A. E. rating	31.2	29.4	43.8
Clutch	Band	Band	Band
Gearset	3-speed	3-speed	3-speed
Wheelbase	128	5-pass. 122 7-pass. 128 Roadster 128	135
Tires	34 x 4	34 x 4	37 x 4 1/2
Wheels	Wood	Wood	Wood
Steering	Left	Left	Left
Control	Center	Center	Center
Make of rear axle.....	Apperson	Apperson	Apperson
Type of rear axle.....	Floating	Floating	Floating

Equipment, all models: Top with dust cover and quick adjustable curtains, rain vision ventilating windshield, ammeter, speedometer, extra demountable rim attached at rear with double tire irons, robe and foot rails, electric horn, mechanical tire pump, clock, jack and tools. Rear tires non-skid.

OF the three chassis which are included in the 1916 line of the Apperson Bros. Automobile Co., Kokomo, Ind., the one of greatest immediate interest is the eight, for it is, of course, new throughout; that is, it is a new model, though it includes many features that have characterized Apperson cars for years.

In addition to the eight there are two sixes—the 6-16 and the 6-60. The four has been dropped. The smaller six is a new model with a 3 1/4 x 5 1/8 L-head block motor; the larger six is carried over with a few changes and has a T-head 4 1/2 x 5 block motor.

The eight is built with two bodies—seven-passenger touring and four-passenger roadster at the same price, \$1,850. The smaller six, 6-16, mounts a seven-passenger touring and four-passenger roadster at \$1,550 and a five passenger touring at \$1,485; the chassis for the five-passenger car has a wheelbase of 122 inches and the chassis for the other two 128 inches; there are no other chassis differences. The big six, 6-60, carries only a seven-passenger body at \$2,350.

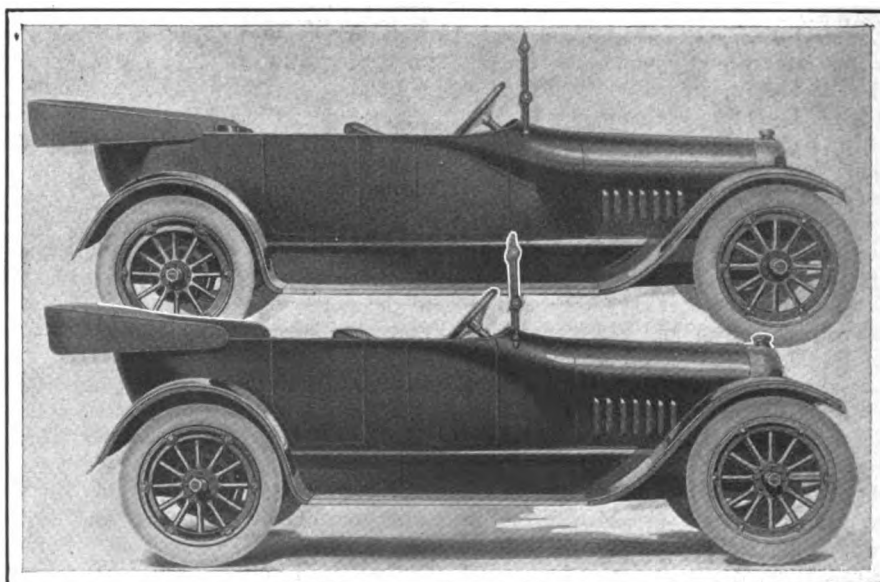
The four-passenger roadster body carried by both the eight and the small six is quite a novelty; the front seat is of the usual type, and the two extra passengers are carried in a seat which is wide at the back and narrows toward the front, giving space where it is most needed and contracting where the knees of the passengers come. The top folds back around the rear seat so that the pas-

sengers are not interfered with. This car is styled the "Chummy" roadster.

All the motors are built in the Apperson factory, as are the axles, gearsets, clutches—in fact, there is little of the Apperson car that is not of Apperson construction. The compression band clutch is used in all models, as in the past.

The motor of the eight is, of course, of the V-type; cylinders are 3 1/8 x 5, L-head and cast in two blocks set at

90 degrees. The valves all are actuated by eight cams on a single camshaft driven by small spiral gears of fine pitch, operating quietly and smoothly; these are the only gears used in the motor. Cooling water is circulated by gravity through a V-shaped radiator. Lubrication is effected by pressure feed, the oil being sent through the hollow crankshaft. Fuel is supplied by a vacuum feed system from a 15 1/2-gallon tank located in the rear of the chassis.



The similarity of lines in the Apperson cars is here shown. The upper car is the new eight and the lower the new six, both carrying 7-passenger bodies. These lines are carried out in the 7-passenger big six also

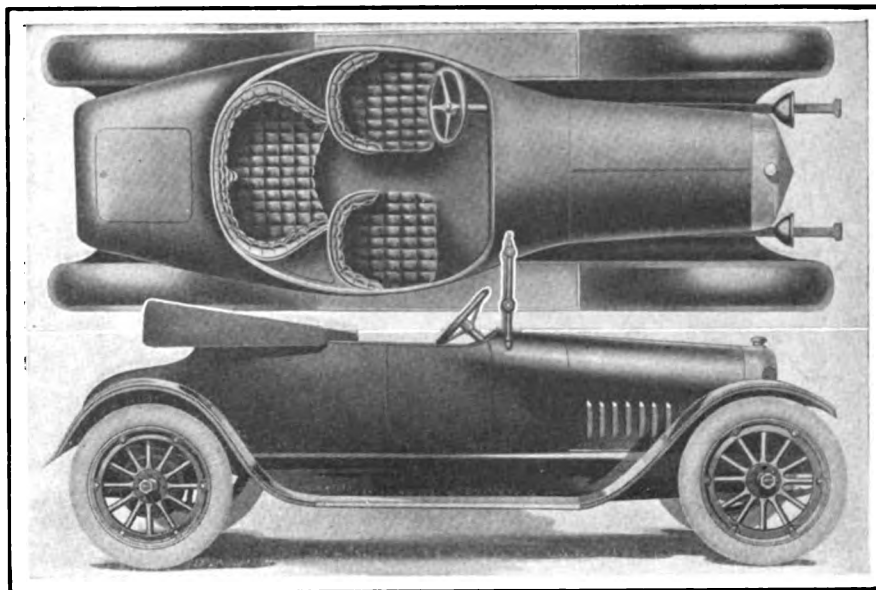
The motor of the 6-16 has L-head block-cast cylinders $3\frac{1}{2} \times 5\frac{1}{8}$, positive pressure feed lubrication, pump-circulated water and the same carbureter, ignition and starting-lighting as the eight. It also has vacuum fuel feed from a $15\frac{1}{2}$ -gallon rear tank.

The big six motor, which is a T-head machine, $4\frac{1}{4} \times 5$, has the same general features as the smaller six, apart from the placing of the valves and the resulting differences; the gasoline tank holds a gallon more than the others and fuel is fed in the same way.

All models are alike in that they have forged I-beam front axles, floating rear axles, of Apperson make, with removable drive shafts, three-speed gearsets mounted in unit with the motors, Apperson compression band clutches, semi-elliptic front and three-quarter elliptic rear springs, worm and gear steering mechanism and Turkish upholstery, in which No. 1 hand-buffed leather, fine steel springs and curled hair all play their parts in making the seats unusually comfortable.

Body details have been given a great deal of attention in all models. For instance, the concealed hinges of the doors are of the duplex demountable type, so that the doors can be removed without taking out a single pin or screw. The sheet metal of which the panels are made is especially treated to give it a good surface for the paint. The two extra tonneau seats fold compactly into the back of the front seats at times when they are not in use.

There is a large luggage space in the four-passenger roadster back of the rear



Both small six and eight chassis mount the new "Chummy roadster" body for four passengers. Back of the rear seat there is a large storage compartment. The top folds around the rear seat and does not interfere with passengers

seat. The rear seat, when not in use, is covered by the top envelope.

All models have the same finish. Bodies are dark blue with black and nickel trimmings, or Apperson green with black and nickel trimmings.

U. S. L. Reorganized

ALBANY, N. Y., July 2—The United States Light & Heat Corp. of Niagara Falls was incorporated June 28, with a capital of \$7,000,000. The directors include A. Stanley Jones, of 61 Broadway, New York; G. M. Walker and A. L. Fowle, 60 Broadway, New York.

The new company is to take over all the property and assets of the old United States Light & Heating Co., valued at approximately \$2,500,000. It is the purpose of the management of the new company to eliminate the New York office.

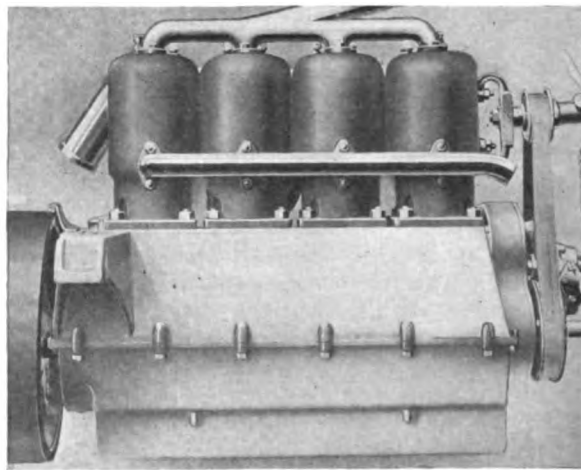
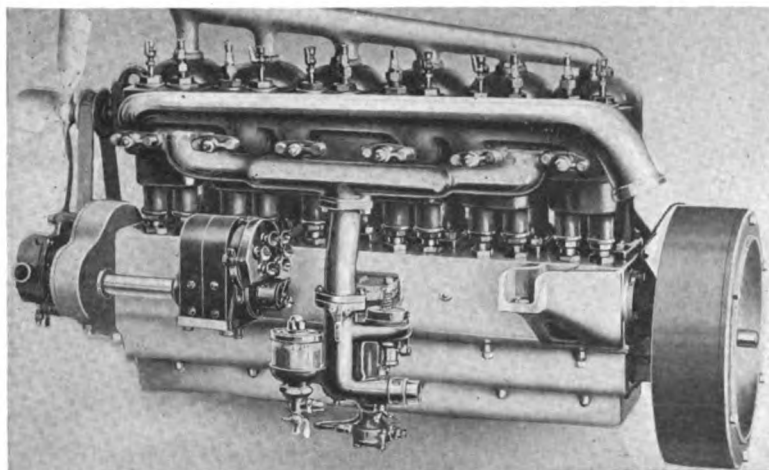
Cannot Upset Walpole Sale

BOSTON, July 3—Judge Dodge yesterday declined to permit Maurice G. Sollers to appeal from the confirmation by the United States district court of the sale of the Walpole Tire & Rubber Co. Sollers is a stockholder.



TOO MANY SIGNS

Three excellent examples of how not to decorate the garage front; too many signs are even worse than too few, for they produce an untidy and unattractive appearance. Moreover, the eye is confused, so that instead of transmitting one impression to the brain, several are sent, and no definite impression is carried away by the observer



Unit construction has been adopted for both four and six; heretofore the motors and gearsets have been separate. Cylinders are separately cast and have L-heads. Circulation of water is by thermo-syphonic action and circulation of oil by pump

Prices Lowered on Herff-Brooks

Six and Four Continued With Many Improvements—Power Plants Now Units

The 1916 line offered by the Herff-Brooks Corp., Indianapolis, will consist of a six and a four, as in the preceding season, and though not a few improvements have been made the prices have been generously reduced. The four, which formerly sold at \$1,100, now costs \$885, and the six, formerly \$1,375, is now \$1,095. The new models are designated 4-35 and 6-50 and are built with touring bodies only.

The principal change in the Herff-Brooks product is shared by both cars and consists of the use of a unit power plant; heretofore the motor and gearset have been separated. Motors are both built with individually cast cylinders and L-heads. Lubrication is by splash, the oil being circulated by a pump. Cooling is thermo-syphonic through a radiator of the rounded front type. The carbureter is a Schebler and a Splittorf magneto driven through a leather coupling supplies ignition current. The leather connection makes the drive silent as well as flexible.

The main shaft of the gearset is unusually heavy and stiff and is hardened and ground all over; it runs on ball bearings and the countershaft runs on Hyatt roller bearings. The connecting link between the motor and gearset is a leather-faced cone clutch, which is of the standard type as distinguished from the inverted type that has been used in the past. Springs behind the leather permit easy engagement.

But one universal drive shaft is employed in the transmission system, this being directly back of the gearcase. The

propeller shaft is enclosed in a heavy torque tube bolted to the rear axle housing. The yoke has been eliminated.

The rear springs are three-quarter elliptic and a new system has been adopted for their attachment. The rear half is slung under the car, allowing a greater spring opening and consequently a wider range of action.

The steering gear, on the left side, has an 18-inch collapsible wheel. Wheels are of wood and carry 33 x 4 tires on demountable rims.

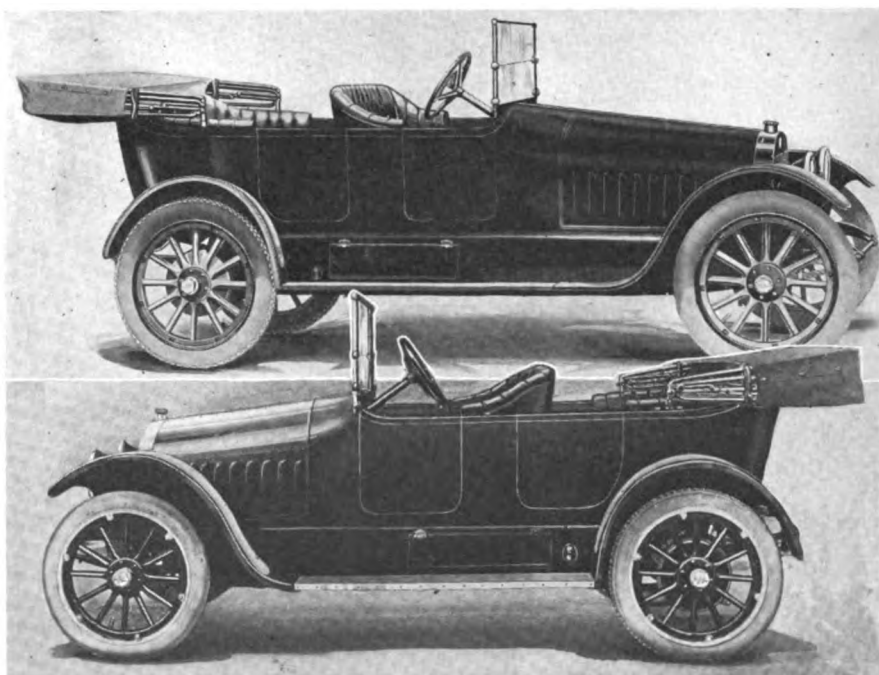
The dynamo of the lighting and starting equipment is flanged and is bolted directly to the right rear arm of the crankcase. Drive is through an enclosed silent chain and a sprocket fitted between the flywheel and the rear end of the crankcase.

Straight lines and a tapered hood that

runs without a break into the cowl are features of the body; the finish is stated to be something out of the ordinary for cars of moderate price. Doors are flush, with handles placed inside out of the way.

There is a space of 27½ inches between the front seat and the dash. The front seat is 43 inches wide and 18 inches deep; the rear seat is 52 inches wide and 21 inches deep. Pedals are adjustable. A cowlboard carries the lighting switches, ammeter, horn button, carbureter adjustment, sight feed for the lubricating system, speedometer and instrument light.

The equipment is complete, including a mohair one-man top with cover and curtains, two-piece ventilating windshield, speedometer, robe and foot rails, muffler cut-out, tire carrier and tools.



Better body lines and better finish are characteristics of the latest models. The hood line merges with the cowl without a break. Wide and deep seats, ample spring action, pedals that are adjustable and complete equipment are features

Brain-whirling Hurry Is Wasted Energy

Tommy Trumbull Gets to Going So Fast He Spins—Reilly Tries to Bring Him Back to the Calm Zone.

By Ray W. Sherman

"GEE, but I'm tired!" Tommy Trumbull rushed in the front door, across the salesroom and into the office and flopped down in a chair. He sprawled out and fanned himself with his hat. He panted, much after the manner of the well-known dog that is always present in the hay-field and who does nothing else but manufacture pants.

"What's the matter, son?" queried Reilly. The dealer was signing a stack of letters.

"Don't know! Dog days, I guess!" droned the youthful salesman. I never felt less like working in my life. I'm getting so I spin around and around instead of going anywhere or accomplishing anything. I feel like the man who tended lighthouse so many years that when he went ashore he walked like a stretched-out corkscrew."

"Take a Vacation"

"Take a vacation! Take a vacation!" advised the dealer.

"Guess I'll have to," Tommy responded. "I don't know how much good it will do, though. I've been getting this way for some time. I could see it coming. Now I've got so I can't think straight. I can't keep my mind on anything. I can't concentrate. I've lost all the enthusiasm I ever had. I feel like a stick that's so waterlogged that it stays below water all the time."

Reilly flipped the last letter into the basket and turned around in his swivel chair. He looked straight at the about-to-expire youth.

"Your works are out of order, Tommy. You're all out of kilter. I think you've been working wrong. I think you've got the wrong dope. You know," Reilly continued, looking critically at Tommy, "I've been watching you for some time, and I think you've developed a system of work that isn't just what it should be. You're going too fast and furious."

"But a fellow's got to hustle, hasn't he, if he wants to get anything done?" countered Tommy.

"Yes and no," was the enigmatical rejoinder. "Hustling and bustling are two different things. You've been bustling, not hustling. You're using more energy than is required for the work you are doing, and the labor you perform is out of all proportion to the result you are seeking to accomplish."

"How so?"

"Well, for one thing, you came in here this morning at pretty high speed. You were traveling about ninety miles an hour. Why such speed? Where were you coming from and where were you going and what were you going to do when you got there? Come now, what?"

"I Was Going To—Going To—"

"I had been out to see Johnson about selling him the demonstrator. I was coming back to the office, and when I got here I was going to—going to—going to sit down and fan myself, I guess."

"Well, why was it necessary to go at such high speed?"

"You answer, I can't," replied Tommy.

"All day long, Tommy, you have been rushing around like that for weeks. You have worked like a dog; and for what? Nothing. In your trip from Johnson's to the office this morning you couldn't possibly have saved over three minutes by your high speed. All your rapid dashing about all day long won't amount to more than fifteen or twenty minutes. And what good does it do?"

"Not much, according to the way I feel now."

"The factory has a very efficient organization, hasn't it?" said Reilly, making a long jump from the subject in hand.

"Yes, indeed! I admire very much the way they do things up there."

Boss Never in a Rush

"And who is the boss of the whole job? Who is the man who runs things?"

"The Old Man, of course."

"Therefore, he ought to be a very busy man, ought he not?"

"He is!" exclaimed the youth.

"But—" and here Reilly pointed that climactic finger at young Mr. Trumbull—"did you ever see him so busy he couldn't stop to talk with you or so occupied that he couldn't listen to a plan of any sort? Or did you ever see him dashing madly about all day long at the speed you have been making for these last few weeks?"

"No, I never did," was the young man's thoughtful reply.

"Yet he works efficiently, handles a big volume of detail every day, keeps the shop running well and, while he is busy and does a lot of work, he does it easily."

"How does he do it?"

"By expending only as much energy as the occasion demands. If there were a riot down in the square the chief would send out a squad of policemen, wouldn't he?"

"Yes."

"But if a drunk had gone to sleep in somebody's front yard it wouldn't require more than one man—and not a very big man at that. There is the difference. Sending fifteen men to arrest a drunk would most certainly land the drunk in the hoose-gow, but see what a waste of energy it would be!

"If you wanted to pick up that waste basket and set it on the desk you wouldn't rig up a block and tackle to do it. You would bend over, take hold of it and set it on the desk. The block and tackle would do the job all right, but see the waste!"

Plan Your Work Better

"There is such a thing, Tommy, as being too energetic. If you are more energetic than is necessary you are shoveling too much coal into your boiler; you're wasting fuel. Just like racing a motor. I would suggest that you sit down and collect your thoughts, plan your work a little better, follow the plan and not waste so much energy. You undoubtedly started out to pile up a good sales record and the job ran away with you."

"You kept working harder and harder until speed became a fetish. Your vision became distorted, and you thought that in speed you saw efficiency. Don't get the idea that speed isn't a good thing, for it is. The slow-poke never gets anywhere in this business. But too much speed is bad. When you go so fast that you don't accomplish what you seek to do and when the speed causes your thoughts to become hazy and in a turmoil you are going to fast."

"One cure for your ill is to sit down, relax your muscles, quit thinking about business for a few minutes and let your thoughts settle down. Your mental state is the key to the whole situation. If you can calm your mind you have calmed your body. After you have become calm start working again."

"I've got to do something," admitted Tommy.

"You most certainly have," replied Reilly. "Many men have found themselves in the same condition you are in."

They have been confronted by a big pile of work and instead of wading through it in a fast but thorough manner, accomplishing one thing at a time—and well—and cleaning up the whole job, they have rushed it and have acquired the rush habit; they have got into this spinning condition, have spun and spun and spun, until, like an enthusiast at a revival, they give one final spin like a top and fall in a heap. They collapse. And that's where you'll land if you don't ease up. Furthermore, if you don't ease up you won't accomplish all you hope to do."

Tommy drew in his sprawling legs, which had hardly moved since he entered the office and flopped into the chair. He turned to his desk, nervously picked up a letter and laid it down, picked up another and moved it across the desk. Then

he turned around in his chair again. Had he been a girl it might have been time to run for the smelling bottle.

"Tomorrow's Saturday, Tommy. This afternoon take the demonstrator, see if you can't get some one to go with you, and if you can't take a couple of books and golf sticks and run down to the Overlook House in the hills and drive back Sunday morning. After you get there put the car in the garage, get a room, take it easy and rest. Lie under the trees and read. Play golf, do anything and don't worry. You'll be a different man Monday."

Tommy stretched himself nervously, began chucking things into his desk and, when it was cleared off, sat for a minute nervously drumming on it. Then, without saying a word, he went out.

The Successful Dealer Must Be a Merchant

Things Every One Knows About but Often Doesn't Do

Realize first that the selling of motor cars is a regular business and not a "game;" a gamble, says Harry W. Anderson, sales manager of the Stutz Motor Car Co.

The successful seller of motor cars must be a merchant using systematic business methods to sell his merchandise.

No happy-go-lucky or hit-or-miss method can possibly succeed now.

The same methods, the same conservatism, the same hard work, and the keeping eternally at it, that have made for success in other lines, are equally applicable to the sale of motor cars.

Have you the necessary capital to insure your success?

If you have not, it is better that you never enter the business, as under the circumstances your venture is foredoomed to failure.

If you have the necessary capital, the next thing in order is to get the right company to represent. Here it is well for you to remember the fact that the right company will always build the right car.

When you have the right company, stick to it, not for a few months or a year, but as long as you are in the business. Don't build up a paying business by spending your money and by hard work only to lose all you have gained by taking up some fly-by-night proposition that apparently promises a little discount or for other reasons that momentarily appeal to you.

The longer you are identified with a certain product, whether it is motor cars or something else, the greater will be your return, if you work. The two most requisite things to remember in picking the factory you are to represent are that they are financially strong beyond question of doubt, and that their product is

beyond question. Why not get a special agency rating on the people with whom you are about to do business?

Concentrate your effort, and keep eternally at it. This is the day of success for the one idea man, the specialist.

Don't blame your failure on the factory you represent. The success of the factory is yours also. Notice the most sought after cars on the market today and you will find they are the ones that give the greatest value for the price.

Big Discounts Not Needed

A manufacturer of this sort does not have to give extra discounts to induce trade, because he cannot do so and keep up his quality. And while we are speaking of discounts, did you ever think why the manufacturer of motor cars gives the large discount he does? No? For profit of the dealer and for service to the owners who purchase the manufacturer's cars. This is why the manufacturer, the reliable one, has a right to demand that owners receive proper service.

Have you ever stopped to think that a factory willing to consign cars to agents does so from necessity, because they must do everything and anything to sell their cars? A good substantial company does not have to do this kind of business.

Don't grab off all the territory you can get just because in some cases the factory grants it. You cannot work it, and you know you cannot. Why ask it? You tie up territory because the factory stands by its contract, and you do not work it, which is of no benefit to yourself (excepting a few floating orders that may be forthcoming), and at the same time you prevent the factory from getting business therefrom. Why not be honest and face the matter square-

ly, asking for only what you can really care for?

Do you ever say to yourself: Have I conducted this business in a businesslike way, making every sale stand by itself, and show its own profit? Some dealers think of and talk about the automobile business as a game. Why should it be different from any other business? Why not use the same common business sense that has been successful in other lines of trade and merchandising?

What about your salesmen? Why not take a good, honest young man and teach him your methods, provided he has, in addition to natural ability to sell cars, the one great fundamental of success, that of staying on the job. The day of boozing, joy riding and general hell-raising is past. Application now counts most.

How does your salesroom look? Pretty good? Why not have it clean and neat and inviting? It counts. Sometimes ladies come to look at cars and a slovenly looking showroom does not appeal to them and frequently spoils a prospective sale. Keep your repairshop away from your showroom. No really fine dealer mixes up his dirty shop with his showroom. It's bad for business. Think about it.

Dignified Demonstrations Are Best

How do you demonstrate your cars? By pulling off some particular stunt that some competitor does just because he does it? Did you ever think that most stunts are the things that the car is not intended to do, and are seldom if ever required in actual service? This being the case, why do it? It can do the car no good and it proves nothing. Why not, therefore, give a dignified, smooth demonstration, such as the car is usually called upon for in service?

Have you ever stopped to think that a car is never sold excepting at full price? Order taking by meeting the other fellow's idea is not selling your merchandise. Selling a car is making the prospect want what you have to sell, no matter what the price is. Isn't that right?

What do you do about trading in used cars? Do you make wildcat trades just to meet those of your competitor, or what you are told your competitor is doing? Don't you know that if half the trades you hear about were made as they are reported to you that the man making them would have gone broke long ago? Don't let what the other fellow does influence you. Make your own trades on a businesslike basis and let it go at that. You trade for profit; if you cannot make it you are better without the business.

All these things that have been mentioned are known to the trade, but somehow they don't seem to be realized.

Dealer's Legal Status

If Two Simple Letters Do Not Make the "Dead Beat" Pay Up, Nothing Remains but to Employ a Collector or Start Suit to Recover—The Costs

By George F. Kaiser

WHEN a dealer has gone over all the accounts on his books and taken care of the debtors as suggested in the first, second and third classes, he still has to deal with the hardest class of people of all to get money from—the "dead beats." If these debtors were properly reserved for this class and investigation has revealed them to be "dead beats," there is no letter that the dealer can write which will bring results in the form of a check or cash.

As there is always a possibility, however, that some people may have erroneously been placed in this class, it is best to write one or two letters before doing anything else. The first letter should be brief and simply call attention to the fact that the account is overdue. A letter like this would be suitable:

Two Letters

Dear Sir:

We beg to advise you that the balance of \$75 due us from January 1, 1915, is still unpaid.

Kindly let us have your check in settlement of this account.

Yours truly,

The second letter would be a little different, of course, and might read:

Dear Sir:

We beg to advise you that unless we receive your check in settlement of the balance of \$75 still due us by Monday, the 24th inst., we shall refer the matter to our attorney for suit.

We trust you will see your way clear to dispensing with the trouble and expense of a law suit.

Yours truly,

If a check is not forthcoming within a reasonable time after the second letter has been mailed, the dealer should immediately turn the claim over to his attorney, or to some collection agency.

The Lawyer's Fees

As a usual thing, no charges are made on collection claims unless some money is actually recovered from the debtor. Collection charges are more or less standardized and are about as follows:

1—On uncollectible debts the dealer will have to pay no charge beyond the expense of correspondence, unless he re-

quests that extraordinary trouble be taken or that suit be brought.

2—He will be charged 10 per cent on the first \$300; 5 per cent on its excess to \$1,000, and 2½ per cent on amounts over \$1,000, when the collection is made by repeated demands or in undefended law-suits.

3—The dealer will be charged 5 per cent on the first \$500, and 2½ per cent on amounts over that when the moneys are collected when only a single demand is made.

4—When a suit is started on behalf of the dealer and the debtor defends, the fee will depend on what attorneys in that locality usually charge their local clients for like services.

Minimum Charges

The dealer will find that, as a usual thing, no fee of less than \$3 will be expected in any case, and that not less than a \$5 charge will be made when suit is started, and that he will have to pay all the court costs, which, of course, vary in the different courts in the different states.

The chances are that some of these people who have been put in the fourth class of debtors will pay up when they see that the dealer is prepared to start suit, or actually has started suit on his claim. In any event, having done all that he can do himself to collect the amount due him, it will do no harm to employ the services of an attorney to go still further.

Modify Letters to Suit

The foregoing articles on collections and the illustrative letters which are given in each article should prove valuable to the dealer, if a little thought and attention are given to properly classifying the debtors on his books, as suggested. Of course, if this is not done, or if it is carelessly done, letters of this kind will not bring the anticipated results. If it is carefully done the letters will bring results.

I would not advise that the letters be used word for word as they are given, for a form letter is sometimes a dangerous thing to use that way. If a little thought is given to the letters and such

changes are made as the dealer deems advisable I think that he will be surprised and gratified at the increased number of accounts he is able to mark "closed."

Private Car for Hire Doesn't Void Insurance

Court Holds That When a Car is Used on a Single Occasion Without Owner's Knowledge He Can Recover

THE Supreme Court of North Carolina decided in a recent case which came up before it that a motorist may have his car used to carry persons for hire on one or two occasions without voiding his accident insurance policies.

A dealer stored his private car in the garage conducted by him. On one occasion one of his chauffeurs took the car out and took some parties on a hunting trip, charging them for the hire of the car. The car was afterward destroyed and when the dealer attempted to collect his insurance the company said that as the policy contained a clause providing: "The motor car hereby insured will not be rented or used for passenger service of any kind for hire, except by special consent of this company, indorsed hereon in writing," and that provision of the policy had been broken, the garage owner was not entitled to collect on his policy and refused to pay.

The court held that where a car is used on a single occasion without the owner's knowledge, he can nevertheless recover his insurance.

(Crowell vs. Maryland Motorcar Insurance Co., 85 S. E. 37.)

Backing Out of the Garage

IN view of the fact that motor cars are habitually backed from garages into the streets in most of the large cities, a recent decision of the Supreme Court of Maine is well worth knowing.

The court said: "The chauffeur evidently did not know of the presence of the team, but he took no sufficient means to ascertain the fact and his conduct was clearly such as to render him negligent under the circumstances. To suddenly back an automobile in a public street or a village, without first ascertaining or making reasonable efforts to ascertain whether another vehicle is standing within a short distance behind, and without giving any preliminary warning or signal, save perhaps the cut-out, which sounded almost at the same instant that the team was struck, cannot be deemed the act of a reasonably prudent man. The mere statement of the case proves negligence on the part of the chauffeur."

(Pease vs. Gardner, 93 Atlantic (Maine) 550).

WIDE-AWAKE MERCHANDISING

GOT NEW YORK'S MAIL BUSINESS

And Poughkeepsie Man Did \$48,000 Last Year

A year and a half ago John D. King, Poughkeepsie, N. Y., started in the accessory business and in the past year he has done \$48,000 worth of business; last March three times as much goods were sold as in the preceding March.

To tell how he did it it is necessary to go back. Over two years ago he noticed that for a city of 30,000 Poughkeepsie was not doing the accessory trade that it should, and he determined to find out the reason, because he was intensely interested in the accessory trade. There were many automobiles in and around the city; large supplies of accessories were required—that seemed certain, but granting this—Where were they coming from? He saw he must solve this problem before he could begin.

So he assumed the role of detective, haunted the freight yards, and found that tires and other supplies were being shipped in in large quantities. Then the question was, "Where were they going? To garages and accessory stores or direct to the owner?" With an automobile he followed the express wagons in their deliveries and found that most of the goods were going straight to owners, and further investigation revealed that all goods were being bought in New York.

The remedy was so simple that he immediately started in business; it was merely to sell his goods at New York prices and obtain all the local trade.

To attract trade he also installed a curb pump and has been selling gasoline at a 1 cent profit. To obtain gasoline at this price it is necessary for the purchaser to buy a 50-gallon book for cash, and so popular is this method that King has 100 to 150 books out all the time.

PLAN TOURIST REGISTRY

That Wide-Awake Merchandising is applicable in the garage as well as in the car salesroom and the supply store is revealed by the latest plan of the Iowa Automobile Business Association. This body of garagemen plans to issue a tour-

ist register. Each garage will keep a record of every tourist stopping in his place, giving the date, name, home city, destination, date when the party expects



Standard accessories assume a different form when hooked up with the name of some particular car

to return, and make of car. This information will be gathered each week from the garages by the association and published in the Sunday papers. It is expected that this will encourage tourists to drive through Des Moines, the headquarters of the organization.

GETS TRADE OF THE CAR OWNER

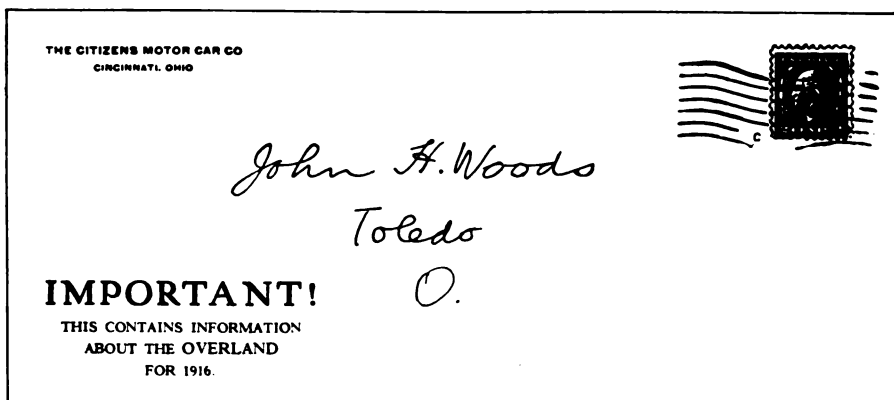
Dealer Features "Accessories for the Paige Car"

The Bird-Sykes Co., which sells the Paige in Chicago, says, in effect, to its car owners: "Buy your accessories of us. This will assure satisfaction, for we are well equipped to know what is best for the Paige car you drive."

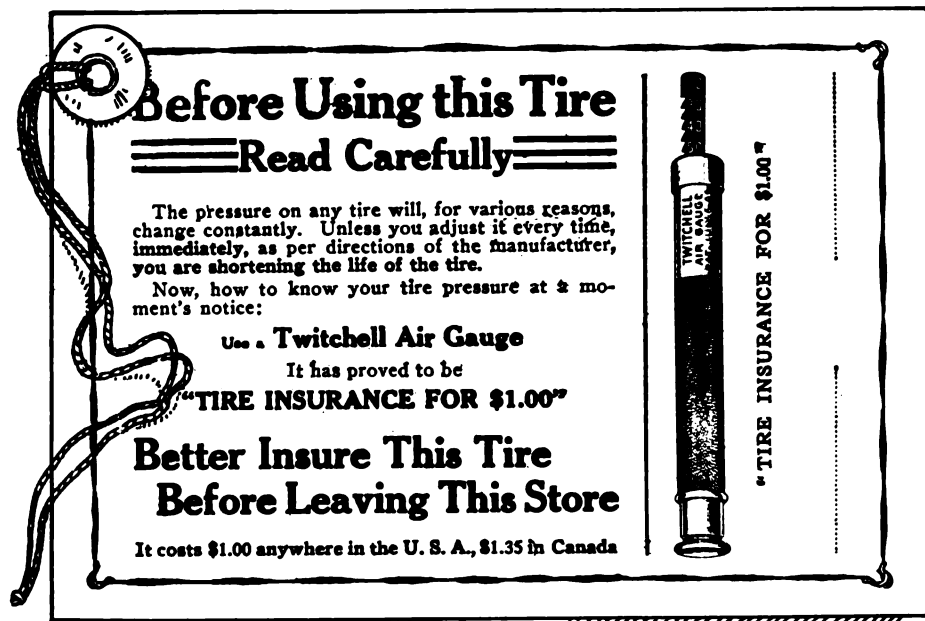
This dealer gets out a catalog of its leading accessories, and wherever possible labels its goods "for the Paige car." It has Paige grease guns, Paige spring oiling clamps and many other devices similarly labeled. The introduction on the flyleaf of the catalog epitomizes the company's policy. It says:

"Believing that our customers expend considerable sums for Supplies, Sundries and Accessories that are not particularly adapted to their Paige cars, we have added to our organization a new Department for such goods, and it will be our aim to carry a complete stock at all times. Through our large experience in these lines, we believe we are in a better position to make an intelligent selection of such parts as Paige drivers may require and, by purchasing in large quantities direct from the manufacturers, we are in a position to make Better Prices and render Better Service."

ONE WAY OF GETTING LETTERS OPENED—AND READ



The Citizens Motor Car Co., Cincinnati, Overland distributor, makes sure its dealers will open and read its mail at this season. The stamp in red, in the lower left corner, does the trick. Some dealers have been known to be negligent on this mail question



Before Using this Tire
Read Carefully

The pressure on any tire will, for various reasons, change constantly. Unless you adjust it every time, immediately, as per directions of the manufacturer, you are shortening the life of the tire.

Now, how to know your tire pressure at a moment's notice:

Use a **Twitchell Air Gauge**
 It has proved to be
"TIRE INSURANCE FOR \$1.00"

Better Insure This Tire
Before Leaving This Store

It costs \$1.00 anywhere in the U. S. A., \$1.35 in Canada

"TIRE INSURANCE FOR \$1.00"

Every time a customer buys a tire he finds one of these tags on it. By its forceful argument it helps the profits of the dealer

RIGHT ARGUMENT AT PROPER TIME

Helps Sell Gauge to Buyer of a Tire

In order to assist the dealer in selling its tire gauge, the Twitchell Gauge Co., Chicago, has developed a tag and a data sheet for salesmen which are unusual in their conception. The tag, which is illustrated herewith, is self-explanatory, and is supplied by the Twitchell company to tire dealers. It is attached by the dealer to the tires he has in stock and serves to call the attention of the purchaser by the Twitchell tire gauge at the time when tire expense is uppermost in his mind and to make plain to him that he can obtain greater satisfaction from his tires if he will systematically use a tire gauge. The data sheet is intended to educate the accessory salesman up to the selling features of the gauge. It is concisely written and tells in simple language exactly what the salesman should know about the gauge in order to influence a prospective purchaser.

CAUGHT THE DOCTOR!

Showing a man his faults is how one salesman sold a car to a doctor who had been holding off for months. Many times the salesman had called on the doctor, but each time the same objection to the car was raised, namely, that a friend of his had bought one years before, and had found it very unsatisfactory. Arguments to the effect that the design had been changed since then, and that it was an entirely different car now, were of no avail. The doctor stuck with unreason-

ing persistency to his one objection withstanding all the logic of the salesman.

Finally the day came when the salesman felt it was "now or never," and he made up his mind that somehow he was going to close the deal. He called on the doctor and launched his attack.

"Doctor," he began, "there are a great many people in this town that would not have you under any circumstances because of mistakes you have made; some of them have been serious. But that does not prove that you are a poor doctor. On the contrary, the fact that you have a large practice indicates that you are a good doctor."

"What you say is true," he admitted, and smiled, for he saw the point.

"Now what I want you to do," continued the salesman, "is to reach into your drawer, take out your check book, and make out a deposit. Here is your order already made out."

And the doctor did it.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith. Manufacturers who supply these devices are urged to forward photographs or sketches of them.

E. S. Michener, New Castle, Pa., furnishes dealers, free of charge, this attractive easel for the show case.

The easel is 11 x 10½ inches, is hand-colored, and has a real Chain Carbon Remover and complete outfit attached. The cut of a half cylinder shows the chain in operation, and clearly demonstrates how easily and effectively carbon may be removed by the following simple and inexpensive method. The device is effective as a silent salesman. It suggests to the car owner an economy.



ONE WRONG WORD CAN BLOCK SALE

Calling Doctor Victim Nearly Resulted Disastrously

The injudicious use of one word nearly lost the sale of a car, and that word was "victim." This shows how open the mind of the prospect is to favorable or unfavorable suggestions.

One morning a salesman called on a doctor for the first time; the latter had become interested in the car through a friend. He was a "hail-fellow, well-met," and given to joking, so when the salesman entered his office the doctor asked him, "Well, how do you want to be cut up?"

And the salesman quickly catching the spirit, returned with, "I'm afraid you are going to be the victim this time."

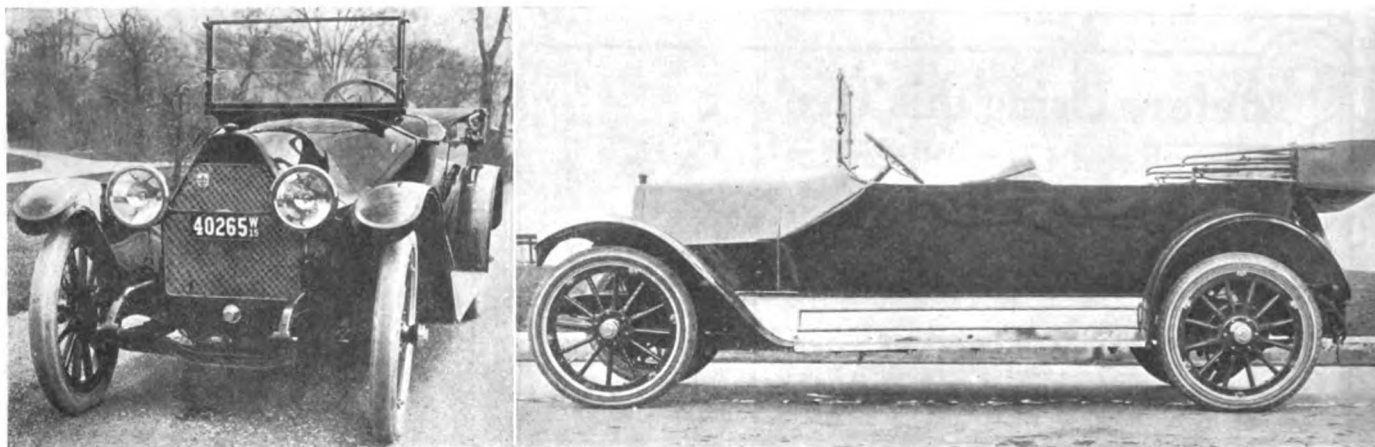
"Victim, victim," said the doctor, "that's what I have been right along. I have bought three cars in three years, and each time I have been the victim." The salesman, by showing him wherein his car did not have the defects of the other three, finally made a sale. But the fact remains that it was nearly lost by the unhappy use of the word victim.

Shaler Line of Counter Cards

As part of a dealer-cooperation campaign the C. A. Shaler Co., Waupun, Wis., is putting out a line of counter cards to dealers. The cards are about 9 x 11, in red and black, and are made to set upright upon the counter by a pasted-on, adjustable leg on the back. The top of each card carries a cartoon and the bottom a punchy rag-time poem.

Who Is to Blame?

Page 5



The characteristic appearance of the Lewis VI, with its sharply sloping hood is retained, few body alterations having been made

Price of Lewis VI Reduced to \$1,390

Bore Now $3\frac{1}{4}$, New Oiling System and Rear Axle and
Remy Ignition, Features - Vulcan Gearshift Extra

DESPITE a substantial increase in the intrinsic value of the Lewis VI due to improvements which are important though not radical, the price has been reduced to \$1,390 by the L. P. C. Motor Co., Racine Jct., Wis.; two body styles are offered at the same price—roadster and seven-passenger.

The stroke of the motor remains at 6 inches, but the bore has been reduced from $3\frac{1}{2}$ to $3\frac{1}{4}$; a plunger pump circulates oil in place of the former fly-wheel system; the rear axle is now a Hess Spring & Axle Co. floating type; the three-speed gearset is new; the Spicer-jointed propeller shaft is tubular instead of solid; Remy battery ignition supplants magneto ignition; and Vulcan

electric gearshift is installed at an additional cost of \$170.

A horizontal Stromberg carbureter replaces the vertical type and feeds directly to a passage in the cylinder casting instead of first through a short manifold. Other detail changes include the addition of a Stewart single-cylinder tire pump driven from the gearset, a hose box under the floorboards in front, the use of Stanweld rims, spiral-bevel axle gears instead of straight bevel and a general improvement of the body lines. The cowl now is of aluminum. The wheelbase is unchanged at 135 inches.

The L-head cylinders are cast in block with the crankcase and flywheel housing, there being a bolted-on crankcase cover. The cylinder head is removable. On the right side of the engine is the Remy unit, coupled to the water pump shaft. Behind the pump is a Remy combination interrupter and distributor for ignition, the coil being attached to the timing gear housing, making the wiring short. Everything on this side of the engine is so low that access to the valves is quite free.

The only parts on the left side are the carbureter which now bolts directly to the casting, and an oil level gauge. A Stewart vacuum tank is used to feed the carbureter, the main tank being at the rear.

A three-bearing crankshaft is used and drives the camshaft by silent chain. The crankshaft is counterbalanced with weights, and this allows of the use of a small, light flywheel.

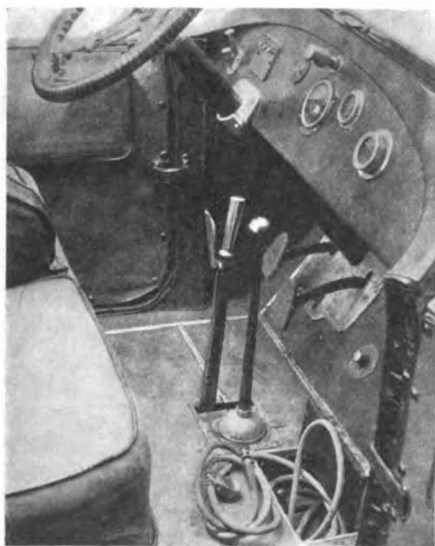
A plunger pump is used instead of the flywheel to force the oil on its rounds, supplying the motor, clutch and gearset.

THE LEWIS VI FOR 1916

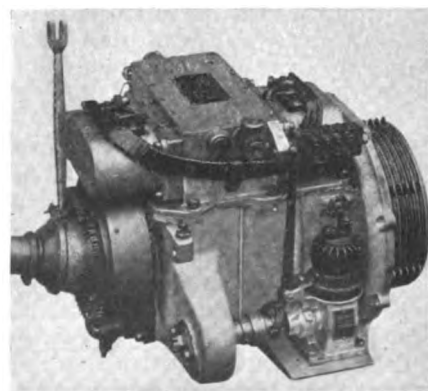
Price, 7-pass. or roadster....	\$1,390
Make of motor.....	L. P. C.
Number of cylinders.....	Six
Shape.....	L-head
How cast.....	Block
Bore.....	$3\frac{1}{4}$
Stroke.....	6
S. A. E. rating.....	25.4
Ignition.....	Remy, battery
Carbureter.....	Stromberg
Starting-lighting.....	Remy
Clutch.....	Disk
Gearset.....	3-speed
Wheelbase.....	135
Tires.....	34 x 4
Wheels.....	Wood
Steering.....	Left
Control.....	Center
Make of rear axle,	
Hess Spring & Axle Co.	
Type rear axle..	Float., spiral bevel
Extra: Vulcan electric gearshift,	
\$170.	

The main bearings are fed directly by leads and the cylinders and pistons by splash. The valve stems, springs, guides, etc., are within the crankcase and are oiled continually by the spray within.

The clutch has fabric-faced steel disks, the whole running in oil. Behind the



The air line is housed in a small compartment beneath the floorboards



When the Vulcan electric gearshift is specified it is mounted atop the gearcase

clutch is the new three-speed gearset, which in design is little different from the conventional. The gears are made of chrome-nickel steel.

The Vulcan electric gearshift unit, when installed, is mounted on top of the gearbox. The control for this unit is on the cowl directly under the steering wheel. The Stewart tire pump is operated from the gearset. The tubing for the pump is run to a small box under the front floorboards and when a tire needs air the cover of this small box may be lifted. This makes a most ac-

cessible position for the air line and puts it out of the way when it is not needed.

The drive from the gearset is by open tubular propeller shaft, which, with its joints, is a Spicer unit, to a new floating rear axle fitted with spiral-bevel gears. The axle housing is made of pressed steel. Torque is taken by a bar.

The body lines have been improved slightly by the elimination as far as possible of sharp corners. The front and rear seats are bifurcated, the extra seats being of the disappearing type. The equipment is quite complete.

Dealer-Garageman Should Become Chummy With Customers

Being Friends With Them Brings Rich Returns

The dealer-garageman should make it his business to have a little chat with his customers whenever an opportunity offers. Rich returns in a business way will result. Even though the customer is waited on by an employee, it is desirable for the proprietor to stop a moment to talk. Only by keeping in close touch with the customers can their wants be anticipated, misunderstandings prevented between them and the employees, and their complaints learned and rectified.

How this policy works out is well illustrated by the experiences of one motorist. It was his first car, and when he purchased it he was a stranger to the dealer. He was a novice and the dealer knew that only by becoming friendly with him could he give him the necessary hints on car operation and smooth out the little misunderstandings that would arise from time to time because of his ignorance.

Next time the dealer saw this motorist was about two weeks later, when the latter stopped for some gasoline. True to his policy, the dealer came out and greeted him. Immediately a feeling of friendship sprung up between them because the motorist was pleased and somewhat surprised that the dealer was interested in how the car was operating. The new owner was well satisfied with his car and thought it had been running well, but when the motor was started the dealer noted that the carbureter was improperly adjusted; he called a mechanic and had it fixed. The owner was highly pleased, and so was the dealer, for he remembered the case of the novice motorist some time before who had condemned the car as a poor hill climber because it had a bad carbureter adjustment.

Just as the motorist was ready to leave the dealer happened to glance at the tires and found one too flat. He called this to the attention of the motorist and at the same time had it inflated. But for the vigilance of the dealer this tire would have given out too soon, and probably the owner would have condemned that make of tire and

gone somewhere else to do his trading.

Next time the owner stopped he happened to mention that he was going on a tour; the dealer grasped the opportunity, and sold him a Blue Book—the motorist did not know there was such a thing, and he was very glad to get it. He actually acted as though the garageman had done him a favor in selling it to him. The sale of two spare tires and tubes and a trunk also resulted.

Meanwhile the intimacy between dealer and owner was growing, and as it grew the owner's confidence in the dealer increased. He knew the dealer was honest, and straightforward, and trying his utmost to give his customers the attention and service they deserved. So when he purchased a defective spark plug from a clerk, one day the dealer was away, and the clerk would not take it back, claiming that the owner had injured it, instead of departing in a huff and giving his trade to some other garage, he told the dealer about it. The clerk was reprimanded and a new spark plug supplied.

But for the intimacy between owner and dealer, and the confidence the latter had in the former, this little incident

might have resulted in the loss of the customer's trade, and he might have influenced some of his friends to place their patronage elsewhere.

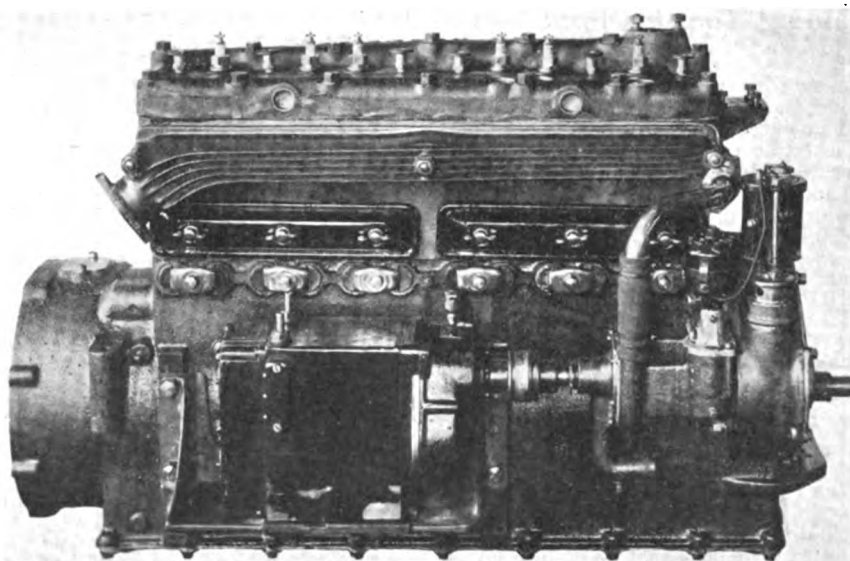
As time passed, the owner's appreciation of the treatment he had received led him to tell his friends about it. Two of them were considering the purchase of cars. Next time the owner saw the dealer he told him to go and see these two prospects. He did, and sales resulted, and not because this dealer had a superior car, but because he gave superior service. They felt that, backed up by this dealer's reputation for service, almost any car would be satisfactory, and they were right. The moral is that it is easier for a dealer to sell cars, backed merely by his own name, providing he is the right kind of a dealer, than it is to sell the car on its merits, no matter how good the car is. A poor car sold by a good dealer is a better bargain than a good car sold by a poor one.

This motorist is still gathering trade for the dealer, and every other customer is doing the same thing. Therefore it is not surprising that this dealer's business is out of all proportion to the size of the town.

The beauty of this idea is that any dealer may put it into operation and swell his business accordingly. It requires no expenditure of money, and no great amount of time.

Overland Kansas City Dealers Gather

KANSAS CITY, MO., June 30—The Overland Motor Car Co. of Kansas City was the host recently at a luncheon at the Hotel Muehlebach. Sales Manager McDuffy of the Willys-Knight division of the Overland company, was the speaker. The guests were 100 salesmen of the Missouri, Kansas and Oklahoma district.



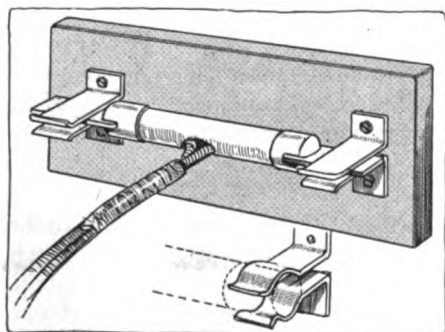
The arrangement of the generator, water pump and ignition distributor on the Lewis VI motor promotes accessibility

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Making Old Fuse Cases Useful (No. 89)

Old fuse cases can be put to good use to preserve switchboards and cables in the event an electric should be driven away from the board while on charge. At each end of the fuse a strip of copper is soldered to act as one member of an improvised knife switch. The charging cables are attached to these through a hole drilled in the composition body of the fuse. The knives at the ends of the fuse fit into contacts arranged to receive them. When a car on charge is driven away, the fuse simply pulls out of the contacts without damage to the cables or the switchboard. A simpler way of making the device would be to purchase fuse connections like the one illustrated. This would eliminate the necessity for putting knife contacts on the fuse and the device would work



(No. 89)

Old fuse case used as a safety device on storage battery charging panel

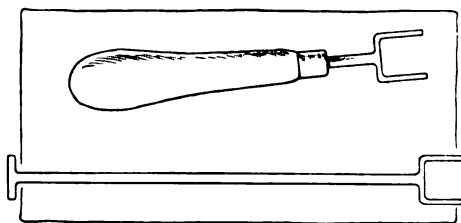
quite as well.—Electric Auto Station, Hartford, Conn.

Grinding Tool for Ford Valves (No. 90)

An excellent Ford valve grinding tool can be made with little trouble from a Ford carbureter adjusting rod. The fork in the latter must be narrowed slightly to fit the valves and then the rod is cut off short, flattened and sharpened, and then driven into a file handle.—T. L. Gracey, Argyle Garage, Brooklyn, N. Y.

Stuffing Box for Reo Valve Stem (No. 91)

Leaky intake valve guides in an overhead motor can be simply and easily remedied, providing there is sufficient stock for the work, by placing a small stuffing box in the cage. The method illustrated herewith was devised for use on Reo cars though it might be made to work on other cars. The valve cage is removed and the valve stem guide drilled larger to a depth of 1 inch, leaving a small shoulder at the bottom. The hole is then threaded. The removable portion which serves as the new guide is



(No. 90)

Grinder for Ford valves made of a forked carbureter adjusting rod

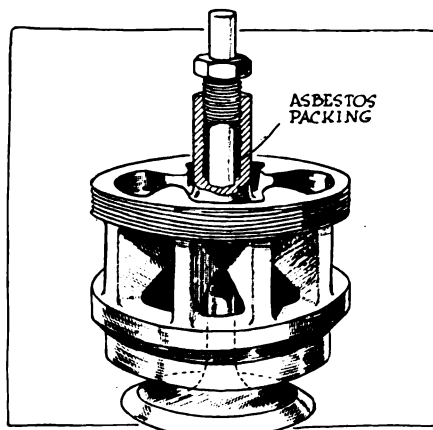
correspondingly threaded and a small cup-like depression is left at the bottom to act as the stuffing box. For packing, a few strands of asbestos thread lubricated with graphite grease is used. The work can be done at a profit at \$1 per cylinder.—C. J. Gowrie, manager, Reo Service Station, Hartford, Conn.

Protecting Painted Fenders (No. 92)

To prevent dust from settling on newly varnished fenders place them on a table so that their surfaces are vertical and clamp them in this position. No matter how much care is taken there is usually some dirt in the drying room; it does not settle on the body because the surfaces are vertical or nearly so, but it does collect on the fenders because they are generally laid flat.—W. E. Howe, Troy Auto Exchange, Cohoes, N. Y.

Puller for Bolts and Bushings (No. 93)

The employment of special pullers for spring bolts, bushings and other similar parts will result in considerable saving of time, especially when many cars of one make are being repaired. The bolt puller has an internal thread on one end which screws over the bolt, then a large sleeve is placed over this member, and finally a washer and nut are put on.



(No. 91)

Stuffing box built into cage of a Reo overhead intake valve to stop leaking

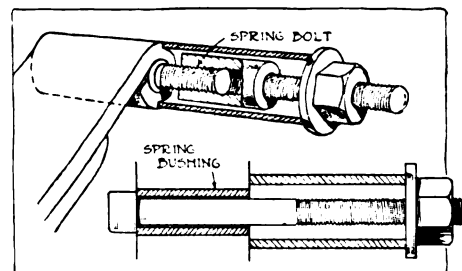
Screwing down on the nut pulls out the bolt.—John Mussler, Ellis Motor Car Co., Newark, N. J.

Parts Records Save Money (No. 94)

A file of parts books is almost an indispensable adjunct to the up-to-date garage. It reduces the time and chances of error in ordering the part because its correct name and code word can be used. In estimating repair work it also is a big help. When in doubt as to whether to buy or make a certain part this file will quickly show which is cheaper.—Wm. Petry, Hudson, N. Y.

Homemade Tool Post Grinder (No. 95)

Often it is necessary to finish small parts by grinding when there is no grinding machine available—probably it would not pay to have one for the



(No. 93)

Puller for spring bolts, bushings and other small parts. This is a time saver

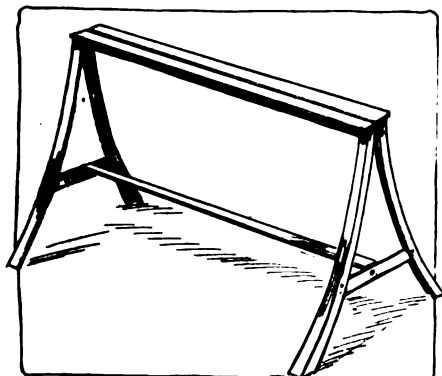
amount of work done. If there is an electric drill in the shop this may be brought into service for certain classes of work by placing an emery wheel on the drill spindle and supporting the whole on the tool post of the lathe. This is accomplished by fitting a rectangular bar the size of a lathe tool to the case of the drill motor and then this bar is slipped into the tool post.—M. R. Potter, foreman, Wm. Petry, Inc., Hudson, N. Y.

Keeping Oil Clean and Handy (No. 96)

Oil that is used in the shop should be kept clean and should be handy for the workmen. One garageman has made use of an old coffee can that had been discarded by a restaurant. The can is placed on a shelf near the work-bench. The cock permits just the right amount to be drawn; no oil is wasted through being spilled, and the oil is kept clean.—Allen Bros. Garage, Greenwich, Conn.

Prop for Holding Up Axles (No. 97)

A simple form of prop for holding an axle off the ground when work on



(No. 97)

Work on an axle is more easily done when it is held up by a prop such as this

the wheels is done can be made from a few pieces of $1\frac{1}{4} \times 1\frac{1}{4}$ -inch angle iron. The device is light, strong and cheap. The construction is so simple that no explanation is required.—T. L. Gracey, Argyle Garage, Brooklyn, N. Y.

Junk Bin With Bottom Door

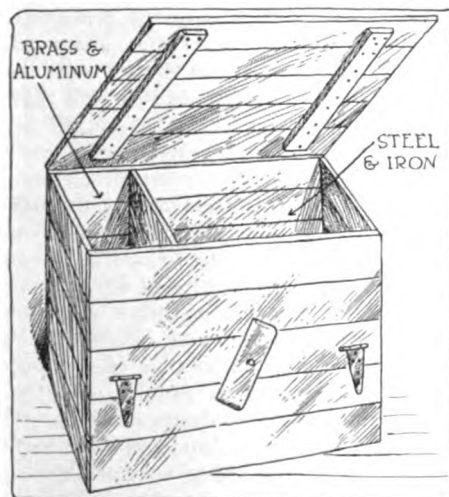
(No. 98)

Ten dollars per month is made by this junk box! It is constructed of ordinary $\frac{3}{4}$ -inch boards and has two compartments, one for brass and aluminum and the other for iron and steel. The material is removed through a large door in the bottom which is ordinarily held closed by means of a large board latch, as shown. The particular advantage of the bin is that it keeps separate the iron chips and the brass and aluminum ones. These are sold separately as scrap. When sold together their value is much less.—W. W. Mitchell, superintendent, Garford Motor Truck Co., Newark, N. J.

Clamp for Inserting Bolts

(No. 99)

For inserting spring bolts an ordinary C clamp can be used to excellent advantage in bringing the holes into alignment. The clamp should be provided with curved ends so that it will fit the rounded spring extremities without danger of slipping.—John Mussler, Ellis Motor Car Co., Newark, N. J.



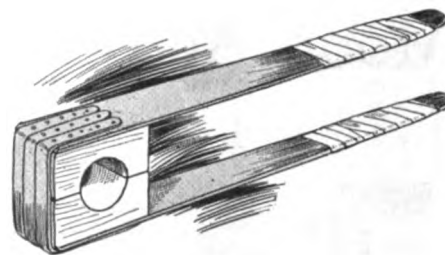
(No. 98)

Two-part junk box with bottom door for removing metal when box is full

Crankshaft Lapping Tool

(No. 100)

A satisfactory tool for lapping crankshafts consists of two blocks of hard wood, hollowed out to fit over the crankshaft journals and hinged by means of three pieces of belt lacing, which are fastened in place with tacks. The finest grade of emery cloth is used between the blocks and the shafts and a liberal amount of oil should be applied. Pressure is applied by means of handles which are made from sheet steel $1/16$ thick. The handles are taped.—T. L. Gracey, foreman, Argyle Garage, Brooklyn, N. Y.



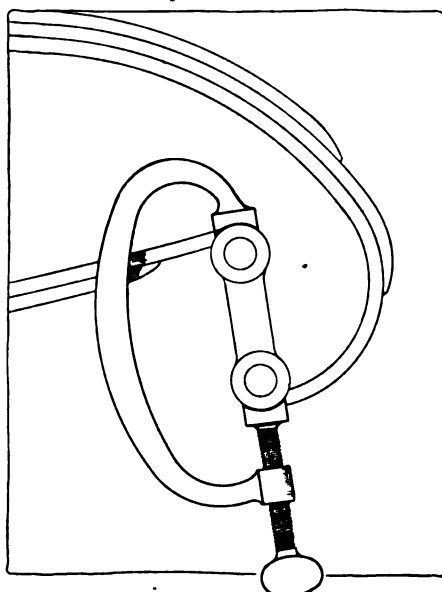
(No. 100)

Lapping tool made of two grooved wood blocks with sheet steel handles

Facing Bosses in Drill Press

(No. 101)

A drill press may be used for machining the faces of piston bosses by means of the arrangement shown herewith. A tube the size of the wrist-pin is placed in the piston and in a slot in this tube is inserted the cutting tool. One end of the tube is pinned to a rod which is



(No. 99)

Using an ordinary C-clamp for facilitating insertion of spring bolts

fastened in the chuck of the drill spindle.—Arthur Cashmore, foreman, Franklin Motor Car Co., Albany, N. Y.

Saving Kerosene in Cleaning

(No. 102)

The amount of kerosene used in washing automobile parts can be reduced three-quarters by means of a drain board and a wash tub. The pieces to be washed are placed on the former and are sprayed with kerosene which runs back into the wash tub, to be used again and again. Every morning the sediment in the tub is removed, but the kerosene is never thrown out; enough is added from time to time to replace that lost by evaporation. The wash tub is placed in a wooden box which has a cover which may be lowered when the outfit is not being used. The drain board is surfaced with zinc. Not only is kerosene saved, but also time, as this method of washing is more convenient; furthermore, it is a neater and cleaner method, and as all washing is done in one place

there is less danger of fire than if the kerosene were slopped around. Parts are transported to the washing apparatus by a box mounted on castors. It measures $5 \times 2\frac{1}{2} \times 1$ foot and has two compartments, one for small and delicate parts and the other for larger and coarser ones.—W. W. Mitchell, superintendent, Garford Motor Truck Co., Newark, N. J.

Excluding Unwelcome Visitors

(No. 103)

Unwelcome visitors to the repairshop are best kept out by locking the door, but then the problem of admitting those that have a right to enter presents itself. However, there is a simple solution which is attained by attaching a small arm to the knob of the lock and operating it by the pull of a string. In this installation the unlocking of the door is left to the stock room clerk, the string running from the door to a point near the stock room window. An ordinary string is used.—W. W. Mitchell, Garford Motor Truck Co., Newark, N. J.

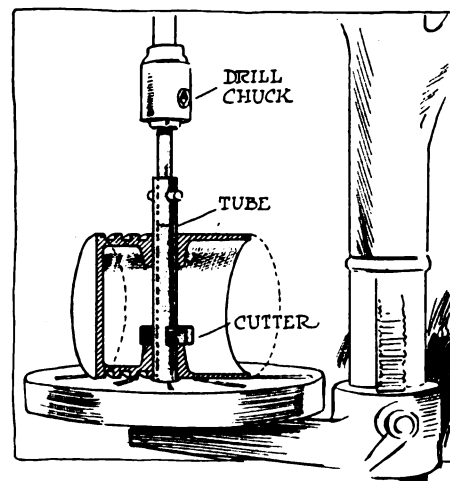
Raising Vise for Small Work

(No. 104)

Raising the vise a few inches above the level of the work bench is an advantage in doing small work, for it allows the vise to be turned to any position. A solid wood block may be used under the vise.—Jos. M. Maier, Newark, N. J.

Who Is to Blame?

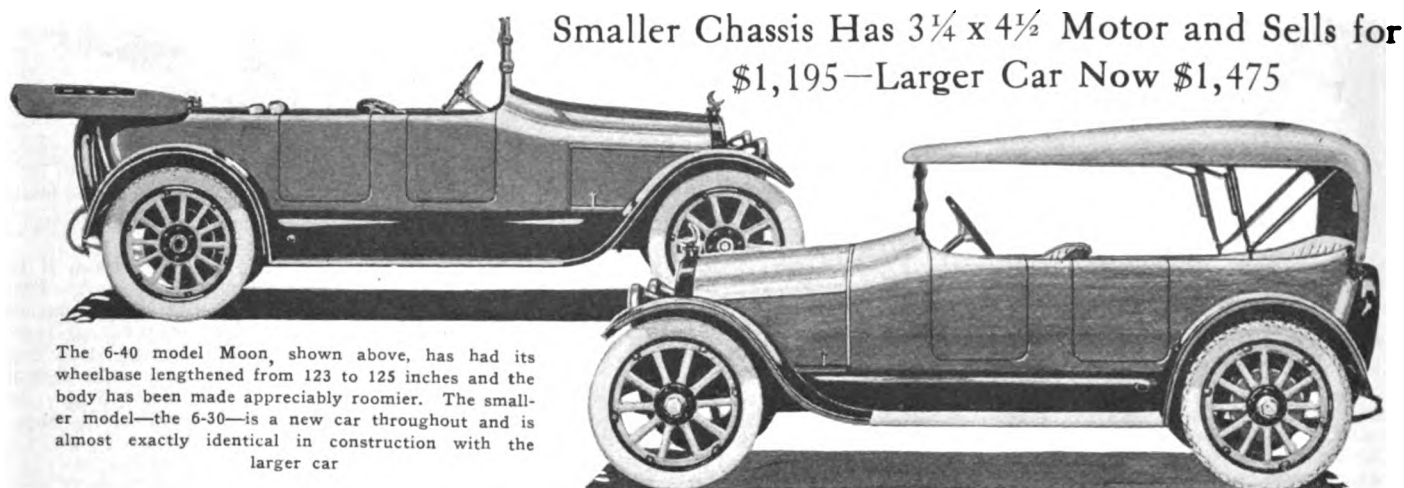
Page 5



(No. 101)

Facing tool for piston bosses used in boring bar rotated by drill press spindle

Moon Adds New Six and Lowers Price of Old



Smaller Chassis Has $3\frac{1}{4} \times 4\frac{1}{2}$ Motor and Sells for \$1,195—Larger Car Now \$1,475

The 6-40 model Moon, shown above, has had its wheelbase lengthened from 123 to 125 inches and the body has been made appreciably roomier. The smaller model—the 6-30—is a new car throughout and is almost exactly identical in construction with the larger car

TWO six-cylinder chassis, which are identical in general design and differ only in power, dimensions and a few details, constitute the 1916 line manufactured by the Moon Motor Car Co., St. Louis, Mo. Both have block-cast Continental motors and both carry touring bodies that are designed on exactly the same lines. The principal differences are that the smaller model, the 6-30, has a motor $3\frac{1}{4} \times 4\frac{1}{2}$, 118-inch wheelbase, carries five passengers and costs \$1,195, while the larger, the 6-40, has a motor $3\frac{1}{2} \times 5$, 125-inch wheelbase, seats seven passengers and costs \$1,475.

The 6-30 is the lowest priced car the Moon factory has produced and is a new model, while the 6-40 is a development of the 6-40 of 1915 though the price has been reduced from \$1,600—a drop of \$125.

Both cars have the same Delco starting-lighting and ignition system; the same 34×4 tires with non-skids in the rear; the same fenders, hood, windshield, wheels, tank—even the same sized radiator, except that in the smaller car the core is half an inch thinner than in the larger. The rear axles, floating and with helical bevel drive, are alike except that the 6-30 has a slightly lighter construction because of the lighter load.

The motors used embody the same details and are among the latest of the Continental designs. Cylinders are block cast and heads are detachable. Crankshaft and camshaft run on three bearings each, carried in the upper half of the crankcase. The crankcase is cast integral with the bell housing for the flywheel and clutch and is equipped with a pressed steel oil pan, which is light and at the same time amply strong. The clutch is a multiple disk, running dry.

Lubrication is provided for by a force feed and splash system, a pump maintaining a constant level in the splash compartments. A detail that helps not a little in quietness of running is the use

of cloth timing gears at the forward end of the motor.

Fuel is drawn from the $17\frac{1}{2}$ -gallon tank and fed to the Rayfield carburetor by a Stewart-Warner vacuum feed; the tank is carried at the rear of the car. The cooling fan is of the propeller type

MOON MODELS FOR 1916

Price—	6-30	6-40
7-passenger .....	.....	\$1,475
5-passenger	\$1,195	.....
Make of motor..	Continental	Continental
Number of cylinders.....	6	6
Shape	L-head	L-head
How cast.....	Block	Block
Bore	$3\frac{1}{4}$	$3\frac{1}{2}$
Stroke	$4\frac{1}{2}$	5
S. A. E. rating.....	25.4	29.4
Ignition	Delco	Delco
Starting-lighting	Delco	Delco
Carburetor	Rayfield	Rayfield
Clutch	Disk	Disk
Gearset	3-speed	3-Speed
Wheelbase	118	125
Tires	34×4	34×4
Wheels	Wood	Wood
Steering	Left	Left
Control	Center	Center
Type of rear axle..	Floating, Floating, helical gears	Floating, Floating, helical gears
Equipment: Top with cover and side curtains, windshield, tire carrier, non-skid tires on rear, headlight dimmer, Stewart speedometer, tools.		

and is driven by a V-belt from a pulley on the pump shaft.

The Delco ignition, starting and lighting combination is mounted on the right side of the engine. When used as a generator drive is through the shaft that drives the pump, and for starter service a pinion is shifted by a pedal into mesh with a gear cut on the rim of the flywheel. The double gear reduction in the starter drive permits a cranking speed of approximately 125 r. p. m. of the engine. The reduction gears are out of mesh when not in use and are housed in a casing that is integral with the right rear supporting arm of the power plant.

The electrical system operates on six volts. Spiral gears are used to rotate the generator and pump, making a quiet drive.

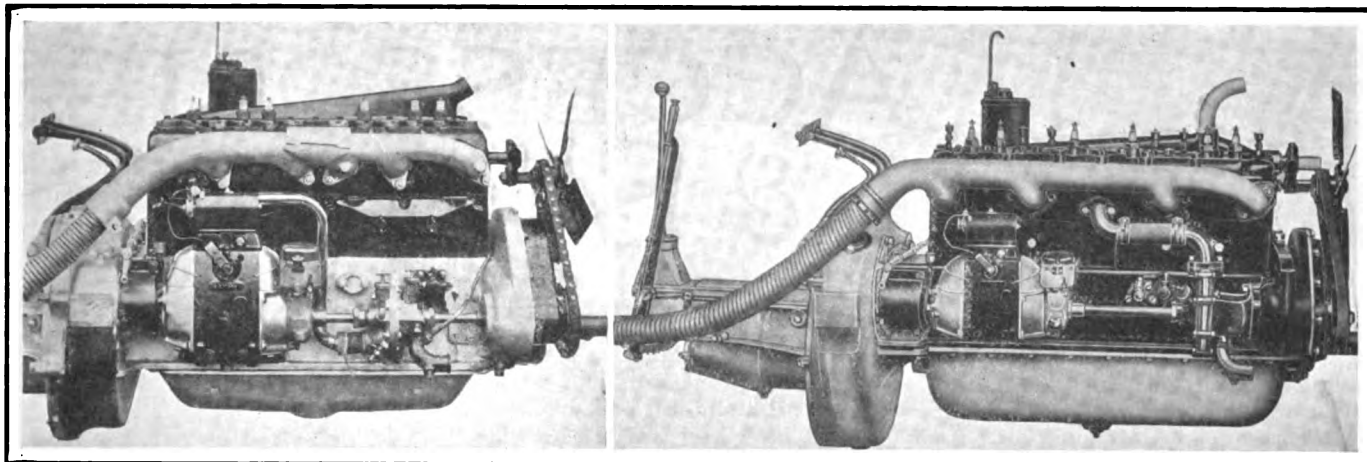
The frame is tapered at the front to permit a short turning radius and is extended at the rear to carry the gasoline tank—which, incidentally, is fitted with a gauge to indicate the quantity of fuel. The propeller shaft is tubular, of sufficient diameter to prevent whipping, and is fitted with two universal joints. From it drive is transmitted through quiet-running helical gears to the full floating rear axle, which has a light but stiff and strong pressed steel housing and is equipped with ball bearings throughout.

Drive is through the springs, there being no radius rods and no propeller shaft housing. The front springs are semi-elliptics and the rear three-quarter elliptics, and are long and flexible; in the case of the larger car they have been made longer than in the 1915 model.

The body of the larger car has been made appreciably roomier than in the preceding model; the rear seat is 3 inches wider and the increase of wheelbase from 123 to 125 inches has given additional leg-room. In both cars the driver's seat is of the semi-divided type, there being just enough separation between the two front seats to give good back support and to prevent interference with the driver's movements by the passenger beside him. The distance from the driver's seat to the pedals has been increased in the interests of comfort.

The two folding seats with which each car is equipped disappear into the back of the front seat, where they are entirely out of the way when not in use. Upholstery is in Spanish leather.

Equipment is complete, and not a little trouble has been taken to make it so. For instance, the tire carrier at the rear is arranged to carry an extra tire mounted on its rim. The carrier has a fellow band, the same as is used on the wheels,



The 6-40 and 6-30 Moon motors both are Continentals of the latest type with detachable heads and are much alike in design. Both are equipped with Delco apparatus

mounted at the rear of the car at an angle that harmonizes with the lines of the car. The tire, on its rim, is slipped on the holder felloe and is locked in place by a single movement of a lever; it is held securely in place without any fastening touching the tire itself.

There are no side lights, the head-lights being fitted with a dimming system to adapt them to street driving. The instrument board, which is finished in ebony, carries the switches for the lights and ignition, ammeter, speedometer, cowl light and carburetor adjustment.

27 to October 9. The preparatory work, however, on this exposition is in its very early stages and we cannot give much detail at the present writing.

We have recently established a Credit Bureau for the use of our members, and this is working out very nicely, especially for the garagemen. The association was, of course, formed with the idea of standardization of prices, good fellowship among competitors, and the elimination of knocking. We are attaching hereto a copy of our "Anti-Knocking Pledge," which is signed by every member in the association and which we have printed and distributed among our members. Most of these pledges were framed and hang in a conspicuous position in the places of business of our members, as is also the case of our membership certificate.

Trade Condition in Denver Has Never Been Healthier

Editor Motor World:

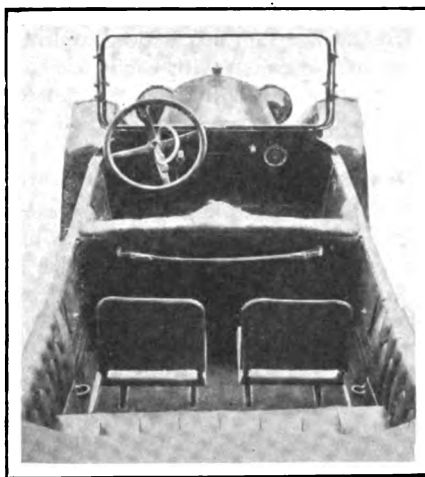
The condition of trade at the present date, in the territory controlled by our members, seems to be very good. The general opinion is that the sales exceed any previous year. This, taken with the fact that the inclement weather has been somewhat against the dealers in this section for the past few weeks, seems to point toward an excellent summer season. We have no statistical information as to just how much the sales of this year up to the present time exceed those of last year, but, as stated, will say the general business conditions in the automobile industry in this territory are very good. In fact, we believe this industry is enjoying a healthier and better business than almost any trade.

Crop Outlook is Fine

The controlling factors in our territory are mining, agriculture and stock raising. Mining in this section is undergoing a boom, and despite the fact of the very severe frosts, the rainy weather which we have had for the past few weeks will certainly be a great help to agriculture, and people out here are looking forward to fine crops.

Stock raising, of course, is enjoying a very brisk trade owing to the purchase of cattle for foreign consumption, and the purchase of horses for use in the European war belt. The writer is not personally familiar with the conditions of other stock, but in talking the matter over and from general opinions expressed we believe that the business of stock raising is very profitable at the present time.

All of these conditions have a decidedly favorable bearing upon the car purchasing power, and the accessory, tire and oil people are, therefore, receiving a correspondingly good trade. We are given to understand, however, that real estate in the immediate vicinity is not very brisk, but that has not affected the



Auxiliary seats in the Moon fold into recesses in the tonneau division when not in use

automobile business to any appreciable extent.

A good many of our dealers are now, or have recently been, in the East making their contracts for purchases for the 1916 season business.

Just at the present time this association is concentrating more or less on an automobile show, to be held in connection with the International Soil Products Exposition in Denver, September

Monthly Meetings a Feature

We have recently undertaken short instructive talks at our general monthly meetings, covering live, pertinent topics, and at the present time are specializing on higher efficiency in garage accounts and overheads and also fire liability, property damage and personal liability as to the responsibility of the gas car dealers and garagemen. At our next monthly meeting we will have a speaker on the recently enacted Workmen's Compensation Law, and will go further into the liability subject.

We are taking in some new members from time to time and endeavoring not to lose any of the old ones. Our association consists of a general division, which we have divided into seven separate divisions, namely, Accessory Division, Gas Car Dealers Division, Gas Garage Division, Electric Car Dealers Division, Electric Garage Division, Tire Division and Oil Division. We have a general meeting once a month and division meetings during the month, whenever necessary.—W. P. Tyler, secretary, The Automobile Trades Association, Denver, Colo.

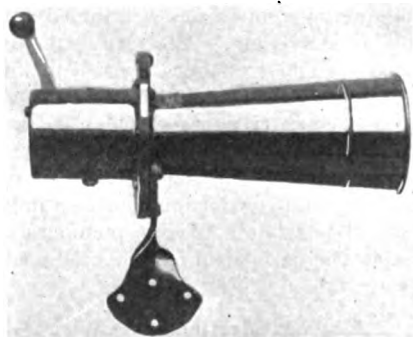


ACCESSORIES & SUPPLIES :

Foot Starter for Fords

A foot-operated motor starter for Ford cars that adds but 18 pounds to the weight of the machine can be installed without machine work or drilling and that does not appreciably interfere with the accessibility of the side of the motor on which it is placed is the Stull, manufactured by the Stull Starter Co., Sunbury, Pa., and distributed to the trade by Nelson T. Gutelius, 103 East 18th street, New York.

The starter consists of a pedal projecting through the lower part of the dash just to the right of the coil box, on the end of a plunger rod; a pulley operated by a steel cable attached to the plunger; a smaller pulley integral with the first and carrying a second steel cable which



Sparton large hand-operated horn which sells for \$7 complete with attaching bracket

extends over a guide pulley to the front of the motor, and a ratchet mechanism on the crankshaft which imparts motion when the pedal is pushed and which automatically disconnects in case of a back-fire.

The plunger rod has attached to its lower end one end of the steel cable that runs over the large pulley, 1; the other end is fast to the pulley. The rod is guided by steel rolls running on studs on the bracket. One end of the second steel cable is attached to the smaller of the two integral pulleys, the purpose being to increase the leverage. The other end of this cable is fast to the crankshaft pulley, 2. The pulley 4, bracketed at the front of the frame, serves to give the cable a right-angled change of direction. The crankshaft pulley has attached to it a long coiled spring, 6, the other end of which is attached to the car frame. This brings the moving parts back to first position after a stroke of the pedal.

The final pulley is really a steel ring

running on 68 steel balls on a stationary ring which is held against rotation by arms bolted to the crankcase bolts. Attached to the crankshaft and carrying with it a special fan-belt pulley, 3, which is part of the outfit, is a ratchet wheel driven by the main pawl on the outer pulley ring. The stationary ring carries the back-firing pawl, 8, which releases if the motor kicks back, and protects the driver.

As the tendency of the spring is to push the whole system, including the pedal, into starting position, the pedal is held down normally by a little latch projecting through it. Placing the foot on the pedal automatically releases the catch and permits the pedal to rise. A downward push carries two pistons over compression. When the motor is warm this is sufficient, as a rule, to start, but when cold, priming is required for a quick start. The starter is equipped with its own connections for priming the motor from the dash, replacing the original front primer.

The makers state that any first-class mechanic can install the starter in two or three hours. The cowl-dash Fords can be equipped, as well as the straight dash models. Full instructions and blueprint are furnished with each outfit, the whole being packed in a neat wood box. The price is \$15.

New Sparton Hand-Operated Horn

The Sparks-Withington Co., Jackson, Mich., is making deliveries of a new hand-operated horn, model G, which the makers state is a third larger than any other hand-operated horn on the market. The diaphragm-vibrating mechanism is



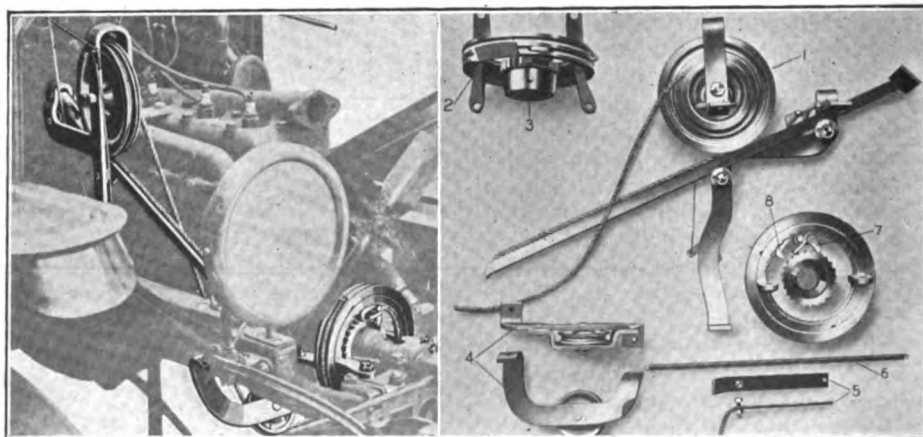
The body of the Hanke tail light is made entirely of glass with red bull's-eye

similar to that used in other hand-operated Spartons. The diaphragm is hand-hammered. A rigid bracket is supplied. Price, \$7.

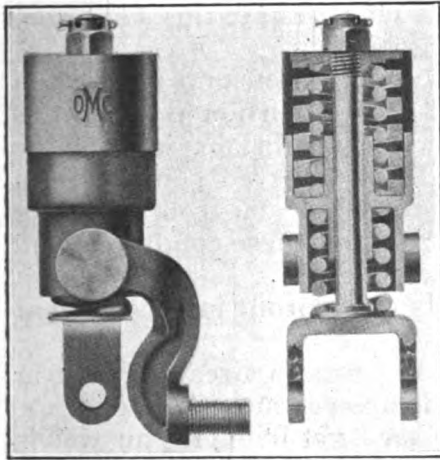
Hanke All-Glass Tail Lamp

An exceedingly neat tail lamp that is made wholly of annealed lead glass, with the exception of hinges and other connecting parts, is manufactured by the Allen Lamp Mfg. Co., Chicago, and distributed by the Hanke Iron & Wire Works, Albany and Chicago avenues, Chicago. The exterior is sand-blasted or frosted and the bulls-eye is the usual bright red. The makers state that it never deteriorates in appearance, is exceedingly durable, has nothing to polish and nothing to get loose and rattle and can be attached to any round or flat bracket on the market. Weight, 26 ounces. Complete with Ediswan socket; no bulb.

Price, \$1; dealers, lots of 100, 50 cents each; lots of 6 or 12, 60 cents.



Left, Stull starter installed on Ford motor, showing ratchet on crankshaft. Right, starter parts. Note method of running the two steel cables



O M C single type shock absorber with springs to cushion both upward and downward shocks

Nesco Automobile Refrigerator

A diminutive refrigerator that is sufficiently large for a day's outing and small enough to be stowed in a corner is made by the National Enameling & Stamping Co., Milwaukee. The Nesco Perfect refrigerator is of metal with a zinc lining and an insulating packing between the metal casings; at one end is a water cooler with a nicked lever faucet at the bottom. The outside dimensions are $17\frac{1}{4} \times 12 \times 10\frac{1}{2}$ high; only one size is made. Corners are rounded and there are handles at the ends and a hasp for a lock.

Price, oak finish, \$4; white finish, \$6 either finish, \$50 per dozen.

Gifford Garage Air Compressor

An air compressor for garage service that is of exceedingly simple and substantial construction is one of the long line of products of the Gifford Engine Co., Lansing, Mich. It is water-cooled, with integral water hopper, has one horizontal cylinder $3\frac{3}{8} \times 4\frac{1}{2}$, occupies a floor space of 18×23 inches, is 17 inches high, and weighs 250 pounds. The two flywheels are 16 inches in diameter, with $2\frac{1}{2}$ -inch face. Displacement, 14 cubic feet of free air per minute, at 600 r. p. m. The guaranteed maximum pressure is 200 pounds. The machine is also made



Nesco refrigerator, which will carry and keep cool a good substantial lunch

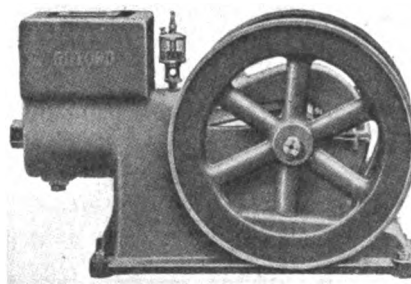
with folding handle so that it can be worked by hand; with 16 x 48 air tank, pressure gauge, safety valve and other fittings; and with electric motor drive, motor and compressor being mounted on one cast-iron base.

Price, compressor only, \$43.50; hand type, \$45.50; with tank, \$83.50; motor-driven type, \$170 to \$389, according to size of compressor and motor that is specified.

O. M. C. Double-Acting Absorbers

O. M. C. shock absorbers, which are handled by A. J. Picard & Co., 1720 Broadway, New York, are made in two distinct types, one for heavy and the other for light cars. Though differing considerably in constructional details, they are alike in one respect: they are designed to check excessive spring movement both up and down—in other words, they are double acting.

The heavy car type is made with two cylinders. The plunger rod carries at its lower end a piston which works in a liquid. A valve in the piston opens only



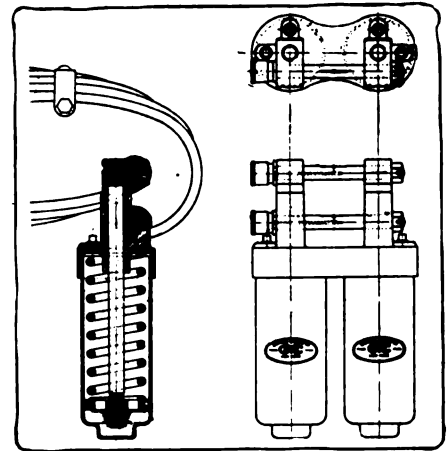
Gifford single-cylinder water-cooled garage air compressor for belt drive

when the piston rises; when the piston descends the only passage for the liquid—oil—is through a few small holes. The upward movement of the piston is resisted by a coiled spring.

When the leaf spring of the car is compressed the coiled spring is brought into play; when the rebound occurs the hydraulic brake acts, easing and checking the up-throw. Thus the piston rises without hydraulic resistance, but is checked by the oil on its descent.

The light car type employs springs only and the cylinders are single—that is, there is one cylinder for each car spring. The cylinder is divided into two compartments, as the accompanying illustration shows. In the upper one is the main spring, which is double, the outer and heavier spring, of square section steel, being reinforced by the inner and lighter spring, of round steel. The lower compartment contains a single spring of round section. The cylinder slides on the central rod, the upward movement being checked by the two upper springs and the downward movement by the lower single spring, giving double action.

Prices, heavy car type, cars 1,500 to



Double type O M C shock absorber with spring above and oil cushion below piston

2,000 pounds, \$35 per pair; to 2,600 pounds, \$35; to 3,300 pounds, \$40; to 3,900, \$40; to 4,500, \$45; over 4,500 pounds, \$45.

Light car type, for Fords, \$8 per pair; \$15 for four.

Gas-o-Tonic Fuel Improver

The White Mfg. Co., 715 Main street, Cincinnati, manufactures a liquid styled Gas-o-tonic which is intended to improve the efficiency of gasoline. The makers state that one fluid ounce put into 5 gallons of gasoline will not only give the motor increased power and increased mileage, but will also produce smoother running and free the interior surfaces of carbon.

Price, \$2 per quart can; dealers, \$1.10.

Corbin-Brown Speedometer Improved

A red hand which indicates maximum speed and which cannot be set back to zero without the use of a special key has been added to the Corbin-Brown speedometer, manufactured by the Corbin Screw Corp., New Britain, Conn. The hand, which by reason of its distinctive coloring cannot be confused with the regular speed indicating hand, remains set at the maximum speed and the fact that it is locked there until released by the key makes it useful as a check on drivers of commercial cars.



Corbin-Brown speedometer with maximum hand

329472A

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Who's to Blame?

The ELEVENTH instalment of Motor World's Campaign for Greater Profits.

THE soot in the air of Pittsburgh is like environment and unfavorable conditions. If the man doesn't fight against the soot and keep clean, it will turn the finest dressed and finest looking man into an A-1 imitation of a mulatto.

So with unfavorable conditions. They can—and will—push a man backward down the Hill of Progress if he doesn't fight to climb up. But if he fights—he wins.

This is the thought in the California story on page 5 this week. It is part of Motor World's Campaign for Greater Profits, but it is not a part on which Motor World had planned. It is one that developed itself, and in an unexpected form.

Two Groups

When the Bear State dealers and garagemen were asked for their views on the handling of accessories the answers presented a remarkable situation. As they were grouped they automatically divided into two parts—one for selling accessories, the other against the practice.

Further analyzed, these paired off into opposed units; on one side the man who said he couldn't make a profit out of the accessory business because of some condition; on the

other side the man who, despite this same condition, is making good at it.

From these it was compulsory to draw a conclusion. And the conclusion is that it is the man and not the conditions who is the obstacle. If you have believed conditions in your town have prevented you from handling accessories, analyze again these conditions and with them analyze yourself.

Ask yourself: Is there profit in accessories? The answer must be Yes.

Ask yourself: Do I want a Greater Profit in my business? The answer must be Yes.

Ask yourself: Can I get it? This answer is up to you. In fact, the answer is YOU.

New Car News

THIS is one season of the year when the dealer can afford to be a trifle "yellow," even though he be quite conservative during other periods of the twelvemonth. With new series of cars arriving on the scene it is an opportunity for publicity not to be passed up.

The dealer who would not think of such spectacular methods at other times will not be straining a point if he puts out a big sign on his salesroom front stating that the new cars have arrived—or will arrive in a few days. If the dealer does not employ these methods at other times they will be all the more effective now because of their previous absence.

Such signs, however, should be part of a well planned campaign of announcement. With them should go newspaper advertising and a follow-up on the prospect list. Every opportunity for making a stir about the new cars should be seized. Now is the time when interest can be aroused. After the new car has become old THE DAY has passed. While waiting for the new cars plan the campaign and get the advance work in swing in good season.

Testimonial Letters

TESTIMONIAL letters are one of the oldest forms of advertising, yet many are of the opinion that their usefulness in selling motor cars and accessories is very small, if they have any advantage at all.

That this is a misconception, and that judiciously used letters speaking well of the product are valuable, is conceded by several experienced sales managers. They are a sales weapon which the dealer should not overlook. Recently, at an annual convention of dealers, this point of testimonial letters was mentioned, and properly obtained and correctly used boosting letters were spoken of very highly.

Supposing a well known business man comes into the salesroom, and, after listening to the statements which the salesman makes regarding service, replies that such statements can easily be made, that they are always made before a car is purchased, and that they

are never lived up to. It would not be half so easy to convince him that the service is just as claimed, as it would be to produce some letters from purchasers whom he may know, and which tell of the service they are getting, and how pleased they are with it. Such letters are testimonial letters, it is true, but they are convincing, and they seem a sort of guarantee, for a customer is not going to write that he is satisfied unless he really is.

How to Get Them

How to get these letters? If the service rendered is satisfactory, no customer will refuse to say so on paper, if he is a fair-minded man, and understands why you want him to do it. It is surprising how easy it is to get a man to write a testimonial letter, providing he is a satisfied customer, and it is your business as a solid business man to make him such. Each letter is worth many dollars to the wide-awake dealer—not that he is going to spread it broadcast in patent medicine style, but rather as a method of backing up his statements. It is a dignified part of the wise dealer's good-will and of his advertising.

Ocean Breezes

THE busy little electric fan is a great breeder of contentment these warm days. An artificial ocean breeze has never been known to cool a prospect's enthusiasm. A hot prospect in a physical sense is seldom a hot prospect in the lingo of the salesroom. He is likely to be too much taken up with a sense of his own discomfort to pay much attention to what the salesman has to tell him.

The Motor World man called on two dealers whose places of business are on Broadway, New York, one afternoon last week. And what a contrast between the two.

Both were bright and clean and cheerful; there was plenty of light; there were lots of easy chairs in each to tempt the prospect to linger.

Salesroom No. 1

But in salesroom No. 1 the atmosphere was all but stifling. True, doors and windows were open, but there was not a breath of air stirring; the sun beat down on the pavement and the heat waves rolled into the salesroom. The salesmen wore a hang-dog expression, a sort of don't-care-whether-school-keeps-or-not look. One of them lolled in the broad door in an effort to get a breath of air. Not a very inviting place for a prospect; mighty repelling, in fact.

Salesroom No. 2

Contrast this with salesroom No. 2. Two whirring electric fans, one in each corner facing the door, directed cool breezes across the room. The atmosphere was appreciably cooler. One salesman was busily engaged

at his desk, oblivious of the heat outside. Another was talking with a prospect—and both the salesman and the prospect were in the line of fire of the fan. Both the salesman and the prospect looked happy. Even the furniture looked cool. Instead of heavy leather chairs, there was light wicker furniture, cool and comfortable.

Which salesroom do you suppose made the best impression? And which salesman do you suppose had the better chance of getting a signature on that dotted line?

Speed

AT one of the conventions of the Society of Automobile Engineers, a very pertinent fact was brought out which should be borne in mind by the garageman in particular who operates a service station for a particular make of car.

It is that the prime requisite in giving satisfactory service is speed.

Have Complete Stock

This means, briefly, that the stock of parts must be kept complete; that workmen be put on a job immediately or at the first possible opportunity and that the work be turned out thoroughly and quickly.

The consensus of opinion at this meeting was that the average car owner is much less likely to dispute the amount of a bill for labor or parts if the work is done quickly than if several days are taken for the job. The essence of the discussion was that the owner is perfectly willing to pay for service, provided only that he get that service QUICK.

Make the Stamp Work

IF one of the workmen in a garage worked up to only about half his capacity and that fact was plainly apparent he would come in for severe censure by the boss, would he not? Yet every garage has a workman who can do much more than he ordinarily does. That workman is the two-cent stamp.

Few letters come anywhere near the weight limit of the two-cent stamp. Each could carry more. This "more" can be little cards, small folders and many small pieces of literature that advertise the garage or some article of merchandise it wishes to push.

What to Do

Do not make them too large, and be sure they are attractive. Slip one into every letter that goes out. Have printed only enough for a reasonably short period. Then get a new set. If this literature be of a snappy, attractive form, those who receive letters from the garage will come to watch for them. If any garageman desires to lay out such a series Motor World will suggest copy and estimate the cost.

The RETAIL NEWS

W. R. Tope has completed a one-story concrete block garage on East High street, Masillon, O. It will be styled East End Garage.

Zanesville Taxicab Co., Zanesville, O., is putting up a two-story 74 x 125-foot brick garage. Karl Albertson is manager.

The Remington Motor Sales Corp. has leased offices in the United States Rubber building, Broadway and 58th street, New York.

The Federal Motor Truck Co., New York, has secured the second floor at 146 West 52nd street, only the first being occupied heretofore. The first floor will be entirely devoted to service quarters, garage and repairshop. The second floor is given over to showroom, general offices and sales department, together with a department for spare parts. The company has established a station in Newark, N. J., at 985-987 Broad street.

The Seattle Truck Co. has been formed in Seattle, Wash., by H. N. Rothweiler, with a service department at Broadway and Denny Way.

The United Garage Co., Toledo, will move September 1 to larger quarters at Jefferson and Ontario streets. M. R. Himes, manager of the concern, has taken a 20-year lease on the structure. The building is fireproof and will be equipped throughout with a sprinkler system.

The McNaul Tire Co. has opened a branch in Brooklyn, N. Y., at 1246 Bedford avenue, under the management of W. H. Byrnes.

A. A. Geisel, Federal and Denby truck dealer in Springfield, Mass., is about to erect a new two-story garage which will measure 165 x 67 feet. It will front on Chestnut street and in addition to housing a salesroom will provide storage for 40 trucks.

The McCleary-Weidel garage at the corner of Sixth street and Grant avenue, Wheeling, W. Va., was formally opened for business last week.

J. D. Darlington & Co. have contracted for a three-story 65 x 75-foot garage to stand at 21st and Brandywine streets, Philadelphia. It will cost about \$20,000.

C. A. Orr and Hugh Miller, operating the Orr-Miller Garage, Phoenix, Ariz., are equipping with new machinery.

E. W. Sprankle has become owner of the Central Garage, Reynoldsville, Pa. The business will be continued.

Sidney M. Harrison and James H. Green have formed a partnership and will handle Hudson, Reo and Saxon cars in Fort Worth, Tex. The business will be styled Harrison-Green Co. and has taken possession of headquarters at 200 Houston street.

The Paddock-Zusi Motor Car Co., Chalmers dealer in Newark, N. J., has leased a modern fireproof building which will be erected on the east side of Broad street at Green street. The building will have a frontage of 37 feet on Broad and

127 feet on Green. Salesrooms and a service station will be maintained.

The Stewart-Warner Speedometer Corp. has opened a service station at 1317½ 14th street, Washington, D. C. B. F. Zimmerman has been appointed manager.

Miller Dudley, 1625 14th street, Washington, D. C., has been appointed representative of the Westinghouse Electric & Mfg. Co. and the Northeast Electric Co.

The Smith-Trew Motor Co., Washington, D. C., has established a service station for Reo and Oakland cars in the rear of 1310 I street, Northwest.

The Auto Utilities Corp. has opened a salesroom at 1898 Broadway, New York, for the sale of Disco electric lighting and engine starting equipment.

The Bryant Motor Service Co. has moved into larger quarters at 1926 Broadway, New York.

Clodio & Engs, Metropolitan Kissel distributor, has moved into larger quarters in the new Circle building, Central Park West and 61st street, New York.

A. G. Somerville has purchased a controlling interest in the Argonaut Motors Co., San Francisco, and hereafter will act as general manager. A new service station will be established at once. The company is Stearns and Pathfinder dealer.

The Intermountain Electric Co., Salt Lake City, has purchased the stock and business of the Bertram Motor Supply Co., 324 South State street. The Bertram company's business will be continued as a department of the Intermountain company, which heretofore has done principally an electrical supply business.

The Auto Supply Co. has been formed in Salt Lake City and will carry on a general accessory business.

The Lincoln Garage, Salt Lake City, has been formally opened for business at Fourth South and West Temple streets. H. S. Barnhart and F. A. Danner are proprietors.

The C. B. McAllister Co., Ford, Cadillac and Dodge dealer in Washington, Pa., has purchased the business of the building occupied by the Washington Auto Co., Hudson, Studebaker, Scripps-Booth and Oldsmobile dealer. The latter concern has not yet made public its plans for the future.

The Atwood Automobile Co. will make a \$30,000 addition to its garage on Monroe street, Toledo. The addition will be a two-story 100 x 175-foot structure.

W. M. Sohn and Connell Dignam have opened a garage at 147 Broad street, Leetsdale, Pa. The Chevrolet is handled.

The Pathfinder Motor Car Co., Minneapolis, is about to erect a new garage building at 214-18 Sixth street South. It will be a one-story brick building 59 x 105 feet.

John L. Morgan and Harry Leas have broken ground for a new garage in Greenville, O.

Cyrus Patschke, former racing driver, has started work on a 60 x 100-foot garage in Lebanon, Pa.

The Western Automobile Co., Duluth, will build a two-story 100 x 140-foot salesroom, garage and repairshop. The estimated cost is \$50,000.

Babbitt Bros., Flagstaff, Ariz., are receiving bids for a three-story 75 x 130-foot garage.

The Lincoln Highway Garage Association, Columbus, Neb., is about to erect a two-story 66 x 102-foot garage at an estimated cost of \$25,000.

The Merrill Garage, Merrill, Mich., was destroyed by fire a few days ago, causing a loss of several thousand dollars.

The Prouty Automobile Co., Richland Center, Wis., is erecting a 44 x 126-foot addition to its garage. It will be used for auxiliary storage and as a repairshop.

C. W. Zimmerman, Salem, O., has purchased property at 192 McKinley avenue and will erect a garage and repairshop. Supplies will be handled.

E. Mason Roberts will erect a two-story 100 x 175-foot salesroom and garage in St. Louis.

John A. Wise and H. E. Bagby, Vinita, Okla., are about to erect a one-story 100 x 150-foot garage. It will be a pressed brick building with a composition roof and will cost about \$10,000.

V. M. Grant and C. V. Holman have purchased the business and building of the American Motor Car Co. operated by Guy Mace and Alfred Hubbell at 216-18 McDaniel avenue, Springfield, Mo.

The McKee Motor & Truck Co. has been organized in Oklahoma City to distribute the Haynes in the state of Oklahoma. Salesrooms and a service station have been established at 617-19 N. Broadway.

Hall's Garage Supply Co. has been formed in Wausau, Wis., and will take over the business of L. H. Hall, accessory dealer. The new company will be located at 131 Clinton street.

Louis and Edward Harman have formed a partnership and will open a garage at LaGrave avenue and Wealthy street, Grand Rapids, Mich.

Luther Tillisher, proprietor of the Douglas Avenue Garage, Duluth, is preparing to move to Virginia, Minn., where he will open a new garage.

The Green Bay Motor Car Co., Green Bay, Wis., is contemplating the erection of a 57 x 65-foot addition at the rear of the present garage, to give more room for repairshop and storage.

Walter Brager and Gustav Velten, Rhinelander, Wis., have leased the building formerly occupied by the Oneida Garage at Rhinelander and established a repairshop and garage.

Lawrence Nehrbass, Milwaukee, who is about to erect a public garage on the northeast side of Milwaukee, was refused a building permit because he had

not obtained the consent of property-owners within a radius of 300 feet of the site. He has procured an alternative writ of mandamus against the city and attacked the constitutionality of the ordinance and the case will be fought out in the courts. The suit is being watched with interest by garagemen and others who have been intending to establish garages in residence districts.

The Calumet Carriage Works, Calumet, Mich., which for some time has been building bodies, has remodeled its shops and is now doing a general repair business.

Walworth & Quinney is the name of a firm which has started a repairshop in Pinconning, Mich.

The Pontiac Oakland Co. has been organized in Pontiac, Mich., succeeding Bone & Mitchell. J. E. Mitchell has retired from the latter concern and his place was taken by Roy Williams. The new company will handle the Oakland.

The Park Garage, Farmington, Mich., recently gave a banquet within its premises to about 160 patrons and friends, to celebrate the completion of a new addition to its building.

The Marshall Auto Co., Flint, Mich., has leased the old plant formerly occupied by the W. A. Patterson Carriage Co. The building is being remodeled and will become the new quarters for the Marshall company, which handles the Chevrolet and Cadillac.

The McDonald Garage Co. has been organized in Bad Axe, Mich., to handle the Chevrolet and Monroe. The members of the concern are Harry McDonald, Jim McDonald and Robert Wurm.

B. Rosebeck has opened a garage and repairshop in Muskegon, Mich.

The McCulloh Garage, Baltimore, operated by Monmonier & Sorrell, has added storage space and a stock of accessories.

The Pullman Sales Co., New York, has become Metropolitan distributor for the Consolidated Car Co., Detroit, Abbott-Detroit manufacturer.

Brown's Garage, Mansfield, O., has recently moved into a two-story fireproof brick building, 78 x 86 feet. There is a showroom in one corner. A feature is the absence of elevators, the sloping nature of the side street allowing a direct entrance to both floors. The Buick is handled.

Hoyles & Moyer, Marion, O., Buick distributor, is building a two-story brick and steel garage, 80 x 130 feet. It will incorporate a large showroom and accessory store. An interesting detail will be the elevator, which has been constructed by Charles Hoyles, one of the owners.

Newton H. Davis, Marion, O., Ford and Dodge dealer, is finishing a showroom, 40 x 75 feet. It is built of brick and is especially interesting because of an oval roof, which is both light and attractive. Davis is also planning to build a garage on another site. It will be of brick and will measure 50 x 100 and be one story high.

Peters & Sons, Ltd., London, Eng., has taken the distribution in that city of Midgley tires and tubes. The company has been coach builder to the king for 125 years. The great grandfather of Walter L. Bodman, present general manager of Peters & Sons, served the company in 1794 and was followed by his son and grandson.

The Midgley Tire & Rubber Co., Lancaster, O., has placed these agencies:

Indianapolis—Peterson-Keyes Automobile Co., 401 North Capitol avenue. Kansas City, Mo., covering Kansas, Oklahoma and northern Missouri—Motor Tire & Repair Co., 1817 Grand avenue. Chicago, covering whole city under Midgley branch—Athena Tire Co., Duluth, Minn., covering three counties in northern Minnesota and three in Wisconsin—Kleyn Automobile Co.

L. H. Rose, former partner of Paul H. Smith, who is now sales manager of the Chalmers Motor Co., Detroit, has been appointed distributor of the Chalmers in San Francisco; he has incorporated under the name L. H. Rose-Chalmers Co.

The Flint Garage, Flint, Mich., is now being operated as Albertson & Lintz, C. H. Lintz having purchased the interest of J. S. Albertson. Edward Albertson retains his interest.

Rex Ellis has been appointed manager of the service department of the Chalmers Northwest Co., Minneapolis. He has been traveling representative of the Chalmers Motor Co. during the last three years.

The Allen T. French Co. has been organized to handle the Chalmers in Albany and Troy, N. Y. Allen T. French will be in charge in Troy and R. M. Robinson in Albany.

The Union Garage, Washington, D. C., has been appointed distributor for the Chalmers. This is the first time the garage has handled cars. It is claimed to be the largest and to have the biggest service station on the east coast.

The Westphalia Auto Co., Portland, Mich., is to have a new garage completed by August.

M. Egloff, Saline, Mich., has bought the garage business of Joseph Barnes. **C. C. Jaejar**, Lansing, Mich., has sold his interest in the Wolverine Garage to M. Van Dervoort, who was his partner.

Lunt & Davison, Flint, Mich., who sell the Buick, will erect a new garage and showroom on Third avenue. They have the agency for Genesee, Lapeer, Livingston and Shiawassee counties and thirteen townships of Oakland county.

John W. Meyers, Wynne, Ark., has rented the Osgood Machine Shop and added a new supply of tools for the purpose of doing automobile repairing.

Clarence Banks, assistant manager of the Louisville branch of the Ford Motor Co. for several years, has been appointed manager, succeeding Forest H. Peabody. Banks formerly had the Ford agency in Louisville but became associated with the Ford Kentucky branch when it was established in 1911.

The Louisville Speedometer Co. has opened a service station for the Stewart-Warner product at 935 Third street, Louisville, Ky. J. H. Morrison, head of the concern, formerly was manager of the service department of the Stewart-Warner Indianapolis branch.

The Ford Motor Co. will move into its new assembly plant, Third street and Railroad Crossing, Louisville, Ky., about October 1. The present salesroom is at 931 Third street.

The Carlisle Garage Co., Ford dealer in Carlisle, Ky., is erecting a new garage.

The Madison Garage, Ford dealer in Richmond, Ky., is erecting a new garage.

Frank J. Bury, formerly connected with the Packard Motor Car Co.'s service department in Detroit, has been made

assistant manager of the Southern Motors Co., Louisville, Ky.

The Callahan Motors Co., a new concern which recently acquired the agency for the Chandler in Louisville, Ky., has opened a showroom at 811-813 So. Third street. W. P. Callahan, who formerly resided in Arizona, is head of the concern.

The Oak Street Garage is now occupying new quarters at 309 East Oak street, Louisville, Ky. It is a one-story, brick building of fireproof construction.

The Independent Tire Co., which has secured the agency for the Swinehart tire, has opened a salesroom at 548 South Third street, Louisville, Ky. N. B. Segal, president of the company, was formerly connected with the United States Tire Co. in New York city.

The A. C. Hine Co., Hartford, is making alterations in the store at 314 Pearl street which when completed will be used as a salesroom for Oakland cars, for which the concern recently signed up for the state of Connecticut. The basement will be used as a service station. A. C. Hine, formerly general manager of the Overland-Connecticut Co., is the prime mover in the project and with him are associated his father, D. H. Hine, and E. N. Humphrey, of the Traut & Hine Co., New Britain.

D. S. Rich, 64 Allyn street, Hartford, has taken the agency for the Perfection motor starter in the state of Connecticut and Stone shock absorbers in Hartford county.

The Protectortyre Co. has opened a branch station at 23 Hoadley place, Hartford.

The Hartford Motor Car Co., Hartford, Conn., Dodge dealer, has about completed the new executive building at 410 Main street. The offices of the Walker & Barkman Co. are located in the same building.

L. H. Elmer, of the Elmer Automobile Co., Ford distributor in Hartford, Tolland, Windham, Middlesex and Litchfield counties, Conn., plans remodeling the Palace Automobile Station at 348 Trumbull street which he recently acquired. The Ford interests will be grouped at the above location immediately alterations are made.

The Spencer Garage, 1260 Main street, Hartford, is being remodeled. The Main street front is being fixed over for salesrooms. R. M. Spencer retains the Pleasant street side of the building as a garage and service station.

E. M. Stone is erecting a brick building at 341 Trumbull street, Hartford, the lower floors of which will be given up to stores leased to tire agencies.

The Fuller Storage Battery Co., 62 Ann street, Hartford, representative of the Willard battery, has established a subagency in New Britain.

The Hartford Buick Co. has opened a new brick service station on Elm street. The firm also represents the Locomobile in Hartford county.

The New England Garage, 230 Main street, Hartford, has been taken over by the New England Service Co. at the same address.

The Mesco Tire Store Co., which has other stores in a number of West Virginia cities, has opened a branch on Second street, Weston.

T. M. Moore has opened a garage styled the White Front at 1022-24 Green avenue, Altoona, Pa.

Dealers Clear Labor by Employment Bureau

**Philadelphia Association Issues Bulletins
Which Tell Who Wants Workers
and Who Wants Jobs—Re-
sults Are Excellent**

PHILADELPHIA, July 3—One of the departments of the Philadelphia Automobile Trade Association which is developing successfully and which is proving valuable and popular is its Employment Bureau. It is conducted on original lines and works well for both employer and employee.

It frequently occurred that members who lunched in the association's grill room at Broad and Callowhill streets would ask each other where such-and-such an employee could be secured or if any member wished such-and-such a man. At first notices were posted on the bulletin board, but this did not give the best results, so the bureau was established. Now, Assistant Secretary H. Warren Terry sends periodically to all members a bulletin of which this is a sample.

POSITIONS WANTED

No. 37—Young man; bookkeeper and stenographer. Two years' experience in automobile business.

No. 38—Salesman.

No. 39—Office man; understands books and accounts.

No. 40—Young lady; stenographer and bookkeeper with two years' experience in automobile business.

No. 41—Bookkeeper or office manager. Seven years in automobile business.

No. 42—Service man.

No. 43—Buyer, manager or salesman. Well acquainted with the trade.

No. 44—Young man wishes to learn automobile business.

No. 45—Young lady desires position selling automobiles.

HELP WANTED

No. 5—First class salesman for automobiles.

No. 6—Capable stenographer and office man. Must be first class.

For further information in regard to the above apply at office.

Inquiries have followed every issue of the bulletin thus far. No names are given in the list. The assistant secretary keeps in his office a record of each case listed, however, and if the preliminary information given upon inquiry seems promising a personal interview is arranged. This method, it is stated, enables association members to secure experienced employees to a much greater degree than is possible through newspaper advertising. The bulletin just issued is No. 7.

Des Moines Dealers to Show at Ia. Fair
DES MOINES, IA., July 2—Besides holding its annual show in the spring

the Des Moines Automobile Dealers Association fathers an exhibit of cars at the Iowa state fair in the fall and has already begun to consider the matter. One of the problems is that of suitable buildings, the available structures being small and not of the best. The association has already selected its committee for next spring's show: Dean Schooler, president of the organization, and C. G. Van Vliet, its secretary.

Dodge Bros. Folks to Play

DETROIT, July 1—Saturday, July 17, will be Gala Day for the 9,000 employees of Dodge Bros.; three excursion steamers will carry them to Tashmoo Park on the St. Clair river, where an athletic meet and amusement program will be staged. The factory will be closed for the day. In addition to the time-honored events there will be a ladies' yelling contest, boys' banana eating race, and ladies' nail driving contest.

Arrasmith Takes Oakland in K. C.

E. W. Arrasmith, formerly in charge of the retail department of the Oakland Motor Co. of Kansas City, has organized the Kansas City Oakland Automobile Co. and will handle retail Oakland sales in Kansas City. The Oakland Motor Co. will do only a wholesale business. The headquarters of both will remain 1521-23 McGee street.

Tire Company in Connecticut

The Monarch Stitched Tire Co., formed recently in Maine, has just purchased the Munroe-Eastman Co.'s plant at the border line between Newington and New Britain, Conn., in which the company will manufacture its product. The carcass of the tire is both stitched and cemented into the tread and a guarantee of 6,000 miles without the adjustment clause will be given by the makers.

Ravenna Becomes Mohawk

RAVENNA, O., July 3—The Mohawk Motor Truck Co. has been incorporated at \$25,000 and will take over the assets of the Ravenna Motor Truck Co. The incorporators of the reorganized company are: S. C. Dougherty, E. E. Jones, E. W. Chapman, Herman Hill and W. K. Dougherty.

Five Hundred Hasslers a Day

INDIANAPOLIS, July 3—Robert H. Hassler, Inc., manufacturer of the Hassler shock absorber for Ford cars, has fitted up a larger factory in the Prest-O-Lite building, 227 East South street. Its capacity is 500 sets of shock absorbers a day.

Overland Shop Employees Get Raise

TOLEDO, July 3—Beginning July 15 the 11,000 shop workers of the Willys-Overland Co. will receive a 5 per cent increase in hourly wages.

Gibson Raiders Stage Warlike Get-together

**Things Hum When They Assemble in
Indianapolis to Hear About the
New Willys-Knight—Willys
Declares Martial Law**

The European war, without the trenches, the foreign languages and the lead, was transplanted one day last week to Indianapolis. The occasion was a reunion of the Gibson Raiders and the travesty was staged in the Hotel Severin. The Raiders, be it remembered, got their name last year when they—about 200 dealers of the Gibson Co., Indianapolis—swooped down on the Overland factory and commandeered cars enough to carry them home. This year the Gibson company invited the dealers to hear about the new Overland Knight car.

The trouble was brought about by a reading of a telegram supposedly from President Willys declaring martial law because of the threatened action of Indiana dealers who could not get enough cars to supply their customers. At this point one dealer demanded in stentorian tones that the cars be forthcoming and declared the telegram to be a fake. Toastmaster J. M. Bloch entreated the dealers to be quiet and when this failed he signalled the heavy artillery, which promptly "opened up" with a volley of blank cartridges from .44's, .38's, .32's and tiny .22's. Some of the dealers who had not been tipped off attempted to leave hurriedly and not until some chairs had been tumbled over did they realize that the Gibson Raiders had put over another one.

One-Mile Circular Dirt Track Records

NEW YORK, July 2—The following official records, made at Bakersfield, Cal., January 3, 1915, were allowed and accepted at the meeting of the contest board of the A. A. A.:

Distance	Time	Driver	Car
10....	8:16:4....	Burman....	Peugeot
15....	12:23:2....	Burman....	Peugeot
20....	16:25:6....	Burman....	Peugeot
25....	20:28:8....	Burman....	Peugeot
50....	40:57:8....	Burman....	Peugeot

Splitdorf Holds Annual Outing

NEW YORK, July 2—The second annual outing of the Splitdorf Electrical Co., Newark, N. J., was held on Saturday last at Tallapoosa Inn, Pelham Park, N. Y. All told, about 65 branch managers were present from New York, Atlanta, Philadelphia, Newark, Toronto, Ont., Chicago, Kansas City, Dallas and Minneapolis. The party traveled to the Inn in eight automobiles and the day was devoted principally to out-door sports.

Wichita Dealers Take Space at Wheat Show

Will Come in Contact with 150,000 Well-to-do Farmers—Special Building Has Been Constructed for the Motor Men

WICHITA, KAN., July 2—The automobile dealers of Wichita will hold an automobile show in connection with the International Wheat Show, which is to be given in Wichita, October 4 to 14. Every dealer and accessory man is interested in the plan and practically all the 8,800 feet of floor was sold at a dinner given to the automobile men by the exposition committee at the Wichita Club, Wednesday evening, June 30. By cooperating with the International Wheat Show the automobile men will get the benefit of the attendance of 150,000 or more well-to-do Kansas and Oklahoma farmers.

Edward F. McIntyre is general manager of the International Wheat Show and John Kirkwood, of the Kansas Motor Co., is chairman of the automobile show committee.

The exhibit will be held in a special building constructed for the automobile men by the exposition committee and adjoining the permanent Exposition Hall and Forum owned by the city of Wichita. The exhibits will consist of pleasure cars, commercial cars and accessories.

Now Columbia Truck & Trailer

KALAMAZOO, MICH., July 3—The name of the Kalamazoo Motor Vehicle Co. has been changed to Columbia Motor Truck & Trailer Co.

Advance-Toledo Pump on Packard

DETROIT, July 3—The Packard Motor Car Co. will equip its cars with the Advance-Toledo motor-driven tire pump. The Monarch Motor Car Co. recently added this pump to the equipment on its eight.

To Sell Wilcox-McKim Plant

SAGINAW, MICH., June 30—Efforts to refinance and reorganize the Wilcox-McKim Co., which made steering gears, piston rings and other parts and light machinery, having failed, the plant and its equipment will be sold, by order of the United States district court. Full particulars may be obtained from E. D. Church, trustee in bankruptcy.

S. A. E. Slate Made Out

NEW YORK, July 3—The nominating committee of the Society of Automobile Engineers has sent in its slate to the society. These will be voted for by mail. The nominees are:

President, one year, Russel Huff; first

vice-president, Eugene S. Foljambe; second vice-president, Robert H. Combs. Members of the Council, two years, Edwin R. Hall, David Beecroft and John G. Utz; one year, George W. Dunham. Treasurer, one year, Herbert Chase.

New Chalmers Distributer

MINNEAPOLIS, June 30—The Chalmers Northwest Co. has been organized and incorporated, its capital stock being \$50,000, of which \$35,000 has been paid in. The company has been appointed distributor for the Chalmers for practically the entire state of Minnesota and sixteen counties in Wisconsin. E. C. Thompson is president of the company; G. N. Michaud, vice-president; R. V. Hess, secretary-treasurer; Joseph Warren, formerly with the Chalmers Motor Co., Detroit, is sales manager for Minneapolis, and G. H. Michaud is sales manager for the branch which will be operated in St. Paul.

COLE TO CONTINUE ITS BIG SIX MODEL

Chassis Remains Unchanged—Body Has New Lines and Several Refinements

INDIANAPOLIS, July 3—While public demand is making a market for the eight-cylinder car, there still and will remain those who prefer the six, and for those motorists the Cole Motor Car Co. will continue its big six, Model 666, with improvements. The chassis has been left undisturbed and attention has been devoted chiefly to refining the body.

The car has seven-passenger capacity and retains its riding qualities, which are accentuated by a wheelbase of 136 inches, new diamond-point, self-lubricating springs and deep upholstery.

The new body is straight-line in effect, has a flat center cowl, rounded radiator and long straight hood. Out-of-the-way auxiliary seats are so placed as to be comfortable. Additional foot room has been made for the passengers in these extra seats by a compartment under the front seats. The center cowl also has been utilized and two trinket lockers, within easy reach, provide storage for gloves, goggles and minor necessities.

A tonneau light, directly under the center cowl, is so arranged that it illuminates the tonneau interior without throwing its rays in the eyes of the occupants. Another feature is a rewinding dash and service lamp on the front cowboard. The light may be removed from its socket and carried to any part of the car. It rewinds automatically. A Waltham clock on the dash is another of the car's refinements.

The seats are deeply upholstered and roomy, and the wide doors make it easy to get in and out of the car.

"Gas" War Is Believed to Be Mere Sham Fight

Conditions Disturbed in St. Louis and Price Falls to 8.9 Cents—In 100-Gallon Lots Figure Is as Low as 7.9 Cents

ST. LOUIS, July 2—There is a gasoline price-cutting war on in St. Louis and surrounding territory, but in the opinion of the independent dealers it is only a sham battle between the Standard company and the Pierce Oil Corp. with the two-fold purpose of freezing out the small dealers and at the same time cornering the oil surplus.

In eighteen months the price of gasoline has been reduced by 1 cent cuts from 17½ cents a gallon to 7 9/10 cents. In each case the cut was first announced by the Standard Oil Co. This usually was followed on the next day by the Pierce company's announcement of a similar cut. The independents by necessity then met the new price—only to be forced to meet another cut of 1 cent made by the big concerns a few months later.

At present the refined product is sold to the consumer here for 8 9/10 cents a gallon in lots of from 10 to 100 gallons. In 100-gallon lots—as it is bought by many owners—gasoline is sold here now for 7 9/10 cents. Quantity prices were introduced here only a few months ago.

Connecticut Ignition for Fords

NEW YORK, July 1—A. J. Pickard & Co. has been appointed exclusive distributor for a new ignition system for Ford cars which is being placed on the market by the Connecticut Telephone & Electric Co., Meriden, Conn. This is practically the standard Connecticut Automatic ignition system with the necessary brackets and wiring adapting it to a Ford car.

The dashboard switch incorporates the usual automatic kick-off but has two buttons in place of the usual three where a magneto is used. The system is intended for use only on Ford cars which are equipped with a storage battery for lighting. A feature is that only the switch appears on the dash. The system probably will be sold for approximately \$30.

Hayes Wheel to Double Production

ALBION, MICH., June 30—The Hayes Wheel Co., which makes the hubs for the wheels made by the parent plant, the Hayes Wheel Co., in Jackson, will erect a new plant to be ready for occupancy by September 1. When completed the production will be more than doubled.

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

A. B. Walton, who has been with the Master Carbureter Corp., Detroit, since October, has been appointed sales manager.

H. H. Newsom has been appointed factory superintendent of the Perfection Spring Co., Cleveland. He was formerly manager of the Macord Mfg. Co. and later general manager and vice-president of the American Voiturette Co., both of Detroit.

J. S. Patterson has been appointed director of publicity of the Hupp Motor Car Co., Detroit. He has been advertising representative of daily papers, including the Chicago Record-Herald, the Chicago Examiner and the New York Globe.

Frank B. Willis has been appointed assistant sales manager of the Chalmers Motor Co. Willis has been connected with the selling of automobiles for fifteen years. He has been eastern district manager of the Lozier Motor Co. and district sales manager for the Chalmers company. At one time he was with the Packard agency in Indianapolis.

R. D. Huntley, who has been in charge of the Peoria, Ill., branch of the J. I. Case T. M. Co., Racine, has been appointed manager of the company's New York branch. He succeeds J. R. Histed and is succeeded in Peoria by A. G. Kellam, who managed the Racine office.

J. P. Gertsen has become a member of the Heberle Motor Car Co., St. Paul, Minn., Paige distributor.

Selwyn W. Kesler, who has been for several years sales manager for the I. S. Remson Automobile Co., Abbott-Detroit and Westcott distributor in Brooklyn, N. Y., has joined the sales force of the Brooklyn branch of the Packard Motor Car Co. of New York. He will be a special sales representative.

Willis D. Cronkhite has been appointed direct representative with headquarters in Philadelphia by the Oakland Motor Co. He was at one time connected with the Buick company.

R. B. Gargett, formerly connected with the Motor Tire & Supply Co., Cleveland, has been made manager of the Electric Equipment Co., distributor in Ohio for Westinghouse starting and lighting apparatus.

Canton Fuel Storage Law in Force
CANTON, O., July 1—The new ordinance for the regulation of the storage



J. C. C. MORRIS
Moon, Seattle

District Representatives

XIV

This is No. 14 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

J. C. C. Morris is Northwestern sales manager for the Moon Motor Car Co. and his headquarters are in Seattle, Wash. For seven years he was Northwestern manager for the H. W. Johns-Manville Co. and prior to that he was with the same company in Milwaukee, making 16 years in all with the one company. His territory for the Moon company at present embraces the entire states of Washington, Oregon and Idaho, Montana west of the 109th meridian and all of British Columbia and Alaska.

of gasoline in this city will be strictly enforced after today, according to Fire Chief Mesnar. He proposes to make a thorough inspection of all garages to see if the new ordinance is carried out. The ordinance provides that gasoline tanks must be buried and storage of gasoline can be permitted only in a fireproof building.

Sheldon Men to Convene

WILKES-BARRE, PA., July 6—Beginning July 14 and continuing for several days, the salesmen of the Sheldon Axle & Spring Co. will be in convention at the plant in this city. Men from both the spring and axle departments will attend. In addition to important re-districting of certain territories addresses on selling and merchandising and the effect of advertising on the marketing of an output will be made by men who are in close touch with the rapid advance of the Sheldon company in the parts field.

Want \$60,000 for Michigan Plant

KALAMAZOO, MICH., July 3—An offer of \$50,000 for the plant of the former Michigan Buggy Co. has been turned down by the Michigan Mfg. Realty Co., which wants \$60,000. The offer was made by Attorney C. A. Buras, Chicago, acting for parties interested in a new automobile manufacturing enterprise.

More Pay for Overland Men

TOLEDO, O., July 3—A 5 per cent increase in the hourly rate of pay of factory employes of the Willys-Overland Co. will become effective July 15. More than 11,840 employes will be benefitted. The present payroll, which averages \$1,000,000 a month, will be raised a full half million dollars annually. This will bring the total salary checks for the coming year up to approximately \$12,500,000.

Two years ago John N. Willys voluntarily reduced the working hours at the Overland factory from 54 hours per week to 50 hours a week with 54 hours' pay.

Federal Declines 1,000-Truck Order

DETROIT, July 2—Being over 200 orders behind in deliveries, the Federal Motor Truck Co. has turned down an order for 1,000 trucks which had been received from the Russian government. The company is paying a 10 per cent dividend, aggregating \$50,000.

American Voiturette Plant Sold

DETROIT, July 2—The Detroit Trust Co., receiver for the American Voiturette Co., has sold the bankrupt concern's plant to Louis R. Grosslight, Detroit, and Isaac Gersen, Toledo. The plant and factory property were appraised at \$45,000 and it is said that this amount will be realized by the sale.

Ford Denies Another Rumor

DETROIT, July 3—Ever since the Ford Motor Co. assumed mammoth proportions it has been kept busy denying rumors. The latest denial is that it has been negotiating for the plant of the Rumely Co. in La Porte, Ind.

Overland Plant in Minneapolis?

MINNEAPOLIS, July 3—The Willys-Overland Co. has been negotiating for the purchase of an 18-acre site in this city for the purpose, it is said, of establishing a plant in the future.

Chandler Common Dividend 77½%

CLEVELAND, July 1—The directors of the Chandler Motor Car Co. have declared a dividend of 77½ per cent on its \$225,000 common stock, in addition to the regular quarterly dividend of 1¼ per cent on the \$200,000 preferred. The 77½ per cent on the common makes a total of 100 per cent on that issue since dividends were commenced one year ago.

Lower Prices and Few Changes on Chalmers

Three Models at \$1,275, \$1,550 and \$2,175
—Ninety per Cent of Dealers Vote
for Continuation at Lower
Figures

DETROIT, July 6—For 1916 the Chalmers Motor Co. will continue its present models, excepting that they will be greatly improved in many directions and will all sell at lower prices. There will be three models—

1—The six-forty, at \$1,275, being the improved model 32 of this year which sold at \$1,400.

2—The six-forty-eight at \$1,550, which is a continuation of the light six which this season sold at \$1,725.

3—The Master Six reduced to \$2,175, or \$225 less than this year.

All of these models are continued because the Chalmers company found that it had met with an ever increasing demand and believes that best results can be obtained by continuing these same models and fitting them with even better and more refined bodies and many other minor improvements and by greatly increasing the production, thus making a reduction in price possible.

All Chalmers dealers were consulted as to the 1916 models and ninety per cent expressed the wish that this year's models be continued with improvements wherever possible.

Winton Will Stick to Sixes

CLEVELAND, O., July 3—The Winton Co. states that a new model of the 48 six will be brought out shortly before the New York show; there will be no reduction in the price, which is \$3,250. The 33 horsepower "New-size" six at \$2,285, will be manufactured without change until next year. The Winton company expresses its intention of continuing the manufacture of sixes exclusively.

Jarrard Apperson Sales Manager

KOKOMO, IND., July 6—T. E. Jarrard, vice-president, has been placed in charge of the sales department of the Apperson Bros. Automobile Co.; assisting him will be J. H. Newmark, who also continues in full charge of the advertising department.

Stearns Wholesale Goes to Reiss

NEW YORK, July 6—Charles E. Reiss, Inc., has taken over from the F. B. Stearns Co.'s branch in this city the wholesale distribution of that car in New York state as far north as Albany, in all of New Jersey, Northampton county in Pennsylvania, and Connecticut as far east as Bridgeport. The branch will con-

tinue the retail sale of cars in the metropolitan district, and Reiss will continue as a Hupmobile dealer and distributor. No manager has been appointed to succeed Manager Walter A. Lesser of the Stearns branch, who recently met death through accident.

Ford to Build Own Tires

DETROIT, July 3—Henry Ford today announced that the Ford Motor Co. will build its own tires in the new plant the company is to erect. An output of 2,000,000 tires the first year is anticipated, valued at \$20,000,000. He also stated that the \$5-a-day wage minimum will apply to all Ford workmen. It is also stated that the tractor will be sold with any style of wheel demanded by the soil to be worked.

FRANKLIN LIGHTER AND PRICES LOWER

Details Improved and Body Lines Are Simplified

SYRACUSE, N. Y., July 6—A substantial drop in price is the chief feature in the Franklin announcement of the new Franklin series. Instead of \$2,150 the car now costs \$1,950, a reduction of \$200.

No radical changes have been made in either body or chassis, though there are several refinements and the car has been made 75 pounds lighter by using aluminum instead of steel for such parts as fenders, the air jackets around the cylinders, and the valve housings. The gear-shifting lever has been moved forward 4 inches, giving room to step behind it, and the pump mounting has been considerably improved. The seats set more deeply, giving greater comfort. The body is now made without striping or moulding and its simplicity accentuated by placing the horn under the hood, removing the handle from the hood and working a little more stream-line effect into the design. The standard color now is green with russet wheels.

Rain Stops Open Air Show

COLUMBUS, O., July 3—A heavy downpour of rain prevented the open air automobile show which was to have been held today at Westerville, Ohio, located a dozen miles northeast of Columbus. The rain did not cease until late in the afternoon, and although a score of cars were on hand to be exhibited they were taken away after giving a parade in the rain at noon. Arrangements have been made to hold an open-air show in connection with the fall festival the latter part of September. The show will be given by Columbus agencies under the auspices of the Westerville Chamber of Commerce.

Empire Moves Factory and Brings Out a Six

Taking Its Business from Connersville to Indianapolis—Six Is Company's First Venture in Field of Sixes

INDIANAPOLIS, July 3—With the statement that its entire factory will be removed from Connersville, Ind., to Indianapolis, the Empire Automobile Co. makes public the details of a new model. This is a six and marks the first departure of the company from the four. The price is \$1,095.

The car, which is larger than any previously built Empire, has a block-cast motor, 3 x 5, with crankshaft on three bearings and camshaft running in a bath of oil. The motor is a specially designed Model. Stewart vacuum gasoline feed, Connecticut battery ignition, Schebler carbureter and Auto-Lite starting-lighting are installed. Transmission elements include a cone clutch, three-speed gear-set on New Departure ball bearings, propeller shaft and full-floating rear axle. The wheelbase is 120 inches, which is longer than that of any of the previous models of this make.

The body has a rolled cowl and convex sides; the hood merges into it without a break from the narrow radiator. The front seats are divided and both front and rear seats are exceptionally roomy. Upholstery is in leather. Equipment is complete.

Hartford Curb Stations Vetoed

HARTFORD, July 2—Mayor Lawler does not think much of the idea of allowing gasoline stations between the curb and the sidewalk and accordingly made use of the veto. The matter came up for consideration by the street board and the ordinance which would permit them was turned down and referred back to the common council.

Judge Invalidates Registration Law

SAVANNAH, GA., July 2—The city and state have a right to collect a registration fee on cars and motorcycles but this money should not be distributed among counties for road work in proportion to the rural mileage in the counties. This was the ruling by Supreme Court Judge Charlton, who gave Harvey Granger an injunction restraining the collection of a \$5 registration fee.

He held that the state or city has a right to collect enough of a fee to cover the expense of registration but that it is double taxation if a Savannah man's money is to be used to pay for the roads in another county. The court scored the muffler cut-out.

Motor Car Dealers Recently Established

PLEASURE CARS

ARIZONA

Place	Car	Dealer
Clifton	Maxwell	Clay & Ruth
Tulsa	Marion	W. C. Norris
Tulsa	King	A. B. Davis Motor Co.
Winalow	Maxwell	M. W. Dadey

CALIFORNIA

Banning	Maxwell	J. L. Devine
Seeley	Metz	E. H. Campbell

DISTRICT OF COLUMBIA

Washington	Mitchell	Miller Bros.
Washington	Oakland	Smith-Trew Motor Co.
Washington	Briscoe	Smith Motor Sales Co.
Washington	Regal	Capital Auto Service Co.
Washington	Sphinx	H. A. Rhine & Co.

FLORIDA

Jacksonville	Allen	Jacksonville Motor Car Co.
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ILLINOIS

Joliet	Oldsmobile	Lawrence-Griffing Auto Co.
Lanark	Oldsmobile	Lanark Auto Exchange
Pittsfield	Oldsmobile	King & Mathews
Sibley	Oldsmobile	Charles C. Waters

INDIANA

Henryville	Saxon	Bollinger & Dunlery
Indianapolis	Milburn Electric	Brown-Rowan-Buck Co.
Milltown	Saxon	N. A. Atz
New Albany	Saxon	Humber & Lay

IOWA

Bradgate	King	E. H. Avery
Clarion	King	C. L. Speight
Davenport	Oldsmobile	Oldsmobile Sales Co.
Gowrie	King	Gowrie Auto Sales Co.
Humboldt	King	O. V. Loverin Auto Co.
Jewell	King	Iver Ivermon
Lanyon	King	Peterson Auto Co.
Sheffield	King	Clark & Knoll

KENTUCKY

Lebanon Junction	Saxon	Hocker & Samuels
Eminence	Saxon	H. S. Drane

MARYLAND

Baltimore	Chandler	Beam Motor Car Co.
Salisbury	King	Salisbury Motor Co.
Cambridge	King	United Stores Co.
Rockville	King	Rockville Garage

MASSACHUSETTS

Arlington Heights	King	A. H. Ward
Boston	Regal	Regal Motor Sales Co.
Melrose	King	F. S. Boardman
W. Somerville	King	Clarendon Hill Auto Repair Shop
Worcester	Detroit	Worcester Auto Co.
Worcester	Ohio Electric	Wm. W. Hodges

MICHIGAN

Alma	Chevrolet	Alma Garage
Almont	Chevrolet	F. E. McGeorge
Bed Axe	Saxon	McDonald & Wurm
Battle Creek	Oldsmobile	F. E. Riley
Bay City	Chevrolet	Central Auto Co.
Benton Harbor	Oldsmobile	C. C. Sweet
Pease	Hudson	E. H. Ekman
Birch Run	Buick	W. R. Madell
Brighton	Oldsmobile	Pitkin & Son
Charlevoix	Chevrolet	A. L. Hart & Son
Charlevoix	Monroe	A. L. Hart & Son
Chasell	Hudson	E. E. Warner
Cheboygan	Chevrolet	Cheboygan Auto Sales Co.
Clare	Chevrolet	J. T. Brown & Son
Edmore	Chevrolet	Jordan & Brower
Kearns	Hudson	Holmgren Auto Co.
Evart	Chevrolet	R. Seath
Ponton	Chevrolet	J. H. Cox
Fremont	Chevrolet	E. D. L. Evans
Gladstone	Hudson	Holmgren Auto Co.
Grand Lodge	Oldsmobile	William Schavey
Grand Rapids	Hudson	L. E. Colgrove
Grand Rapids	Maxwell	A. M. Snell
Hastings	Chevrolet	Auto Sales Co.
Howell	Chevrolet	Boardman & Larkin
Ithaca	Overland	George McMullen
Manistiquette	Hudson	L. Yalomstein
Marquette	Chevrolet	King & Goodes
Marshall	Chevrolet	Day & Storr
Mayville	Chevrolet	Galliver-Yokom Co.
Menominee	Hudson	Auto Service Co.
Middleton	Oldsmobile	Lepley & Metz
Millford	Chevrolet	T. H. Padley
Muskegon	Chevrolet	Apple St. Auto Co.
Owosso	Saxon	G. A. Stanton & C. A. Gladden
Owosso	Chevrolet	J. M. Stewart
Perry	Chevrolet	O. M. Arthur
Plainwell	Maxwell	Ingraham & Travis
Pontiac	Oakland	Pontiac Oakland Co.
Pontiac	Chevrolet	Pontiac Auto Sales Co.
Port Huron	Chevrolet	Wm. Barkell
Romulus	Monarch	Charles L. Rutter
Saginaw	Briscoe	C. H. Guider
Saginaw	Packard	J. P. Beck & Son
Sault Ste. Marie	Hudson	Soo Hardware Co.
St. Charles	Chevrolet	St. Charles Auto Co.
Sheridan	Ford	Clyde Bush
Traverse City	Cornellian	B. S. York
Traverse City	Oldsmobile	Park Place Garage Co.
Unionville	Chevrolet	C. A. Hofmeister
Waldron	Oldsmobile	E. I. Wilson

MINNESOTA

Place	Car	Dealer
Fergus Falls	Cornellian	A. J. Anderson
Fergus Falls	King	Fergus Iron Works Co.
Dodge Center	King	W. H. Martin
Granite Falls	King	A. W. Winter
Lake City	King	John Schmaus

MISSISSIPPI

Bay St. Louis	King	H. M. Wolbrecht
Grenada	Packard	Dudley & Rogers

MISSOURI

Kansas City	Cornellian	Ericson Auto Service Co.
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MONTANA

Butte	Cornellian	Lloyd C. Gage
Kalispell	Packard	W. B. Lewis
Missoula	Packard	McCullough Motor Car Co.

NEW HAMPSHIRE

Hinsdale	King	H. C. Holland
Laconia	King	A. H. Harriman
Manchester	Ohio Electric	E. E. Austin

NEW JERSEY

Passaic	Cornellian	R. N. Newton
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NEW YORK

Albany	Cornellian	G. H. Thatcher
Cold Spring	Packard	E. L. Post, Jr.
Gloversville	Oldsmobile	C. H. Miller
Lockport	Oldsmobile	H. C. Rollin
New Milford	Packard	J. C. Drew
Perry	King	C. Read Clarke
Rochester	Cornellian	Wm. G. Helber
Schuyerville	Franklin	Ford Garage Co., Inc.
Troy	Cornellian	E. J. Flak
Utica	Cornellian	Fiscus & Harris
Watertown	Oldsmobile	Watertown Auto & Sup. Co.

NORTH CAROLINA

Mt. Airy	Saxon	Banner & Tucker
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NORTH DAKOTA

Cavalier	King	H. A. Rygh
Portal	Cornellian	R. J. Maurer

OHIO

Belmont	Studebaker	George Kelly
Bethesda	Studebaker	A. H. Belon
Bradner	Chevrolet	S. C. O'Bryan
Cumberland	Overland	Young & Mann
Dillonvale	Studebaker	Gerke & Carcon
Gordon	King	F. G. Feitshaus
Kirkville	Packard	C. C. Gardner
Hamilton	Oldsmobile	Baxter Motor Car Co.
Mt. Vernon	Saxon	P. S. Keiser
Niles	Auburn	C. P. Flanagan
Ottawa	Saxon	F. A. Henry
Powhatan	Studebaker	Powhatan Hardware Co.
Sidney	Saxon	F. A. Zimpfer
Steubenville	Chandler	E. C. Bower
Toledo	Oakland	Standard Auto Co.
Toledo	Oldsmobile	Geo. E. Grant Auto S. Co.

OKLAHOMA

Alva	Cornellian	Munson-McNeely Motor Co.
Idabel	Saxon	W. A. Loftin

VIRGINIA

Acomac	King	A. M. Mason
Cape Charles	King	Thomas Parsons
Williamsburg	King	John A. Bechtel

Motor Car Securities Quotations

	July 3, 1914	July 3, 1915
	Bid	Asked
Ajax-Grieb Rubber Co., com.	200	300
Ajax-Grieb Rubber Co., pfd.	88	101 1/2
Aluminum Castings, pfd.	88	100 98
Chalmers Motor Co., com.	101	104 91 92 1/2
Chalmers Motor Co., pfd.	94	97 95 98
Firestone Tire & Rubber Co., com.	220	300 286
Firestone Tire & Rubber Co., pfd.	108 1/2	110 108 111
General Motors Co., com.	83	94 156 157
General Motors Co., pfd.	92	93 101 102
B. F. Goodrich Co., com.	23	24 53 54 1/2
B. F. Goodrich Co., pfd.	87 1/2	88 103 105
Goodyear Tire & Rubber Co., com.	166	172 288 272
Goodyear Tire & Rubber Co., pfd.	96	98 106 107
Gray & Davis, Inc., pfd.	88	102
International Motor Co., com.	3	3 13 14
International Motor Co., pfd.	3	9 32 36
Kelly-Springfield Tire Co., com.	56	58 150 163
Kelly-Springfield Tire Co., 1st pfd.	76	80 85 1/2 86 1/2
Kelly-Springfield Tire Co., 2nd pfd.	94	100 160 165
Maxwell Motor Co., com.	14	15 35 35 1/2
Maxwell Motor Co., 1st pfd.	41	42 1/2 82 83
Maxwell Motor Co., 2nd pfd.	17	18 31 1/2 33
Miller Rubber Co., com.	..	.. 190 192
Miller Rubber Co., pfd.	..	.. 103 105
Packard Motor Co., com.	103	.. 109 ..
Packard Motor Co., pfd.	97	100 96 1/2 101
Peerless Motor Car Co., com.	..	.. 17 67 70
Peerless Motor Car Co., pfd.	..	.. 94 96 98
Portage Rubber Co., com.	..	.. 30 33 38
Portage Rubber Co., pfd.	..	.. 86 92 95
*Reo Motor Truck Co.	11 1/2	12 1/2 15 16
*Reo Motor Car Co.	17 1/2	18 1/2 20 1/2 30
Stewart-Warner Speed. Corp., com.	51	52 67 1/2 68 1/2
Stewart-Warner Speed. Corp., pfd.	98	98 104 107
Studebaker Corp., com.	20	20 76 78
Studebaker Corp., pfd.	80	84 100 100 1/2
Swinehart Tire & Rubber Co.	85	87 77 78
U. S. Rubber Co., com.	59	59 1/2 45 1/2 47
U. S. Rubber Co., pfd.	102 1/2	103 105 106
White Co., pfd.	107	110 103 108
Willis-Overland Co., com.	88	92 126 128
Willis-Overland Co., pfd.	93	95 102 103 1/2

*Par value \$10; all others \$100.



*Indicates sanction by A. A. A.

- July 7-8.....Taylor, Tex. Track meet; Taylor Automobile Club.*
- July 9.....Burlington, Ia. 100-mile track race; Tri-State Fair.*
- July 11.....Milwaukee, Wis., 100-mile track race.
- July 31.....Denver, Col., Road race. Promoter, Chas. L. Newcomb, Jr.
- July 31.....Des Moines, Ia. — Speedway races.
- Aug. 2-3.....San Francisco, Cal., Tri-State Good Roads Association, third annual convention.
- Aug. 14.....Janesville, Wis., Track meet, Janesville Park Assn.
- Aug. 21.....Elgin, Ill., Road races, Chicago Auto Club.*
- Aug. 28.....Kalamazoo, Mich., 100-mile track race, Kalamazoo Motor Speedway.
- Aug. 30-Sept. 3.....Columbus, O.—Automobile show; Columbus Automobile Show Co.; Ohio State Fair.
- Sept. 4.....Minneapolis, Minn.—Speedway races; Twin City Motor Speedway.
- Sept. 6.....Providence, R. I., Speedway races. Promoter, F. E. Perkins.
- Sept. 6.....Detroit, Mich., Speedway races, Detroit Speedway Club.
- Sept. 6-9.....Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
- Sept. 11.....Minneapolis, Minn. Speedway races; Twin City Motor Speedway.
- Sept. 17-18.....Peoria, Ill. Convention of Garage Owners Association of Illinois.
- Sept. 18-25.....Los Angeles, Cal.—Eighth annual automobile show.
- Sept. 20-25.....San Francisco, Cal., International Engineering Congress.
- Oct. 1-2.....Trenton, N. J., Track meet, Intra-State Fair.
- Oct. 2.....Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
- Oct. 2.....New York, N. Y. Speedway races, Sheepshead Bay Speedway Corp.
- Oct. 3-10.....Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
- Oct. 6-16.....New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
- October 7.....Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.
- January 1-8.....New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
- January 22-29.....Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
- March 4-11.....Boston, Mass.—Fourteenth Annual Show; Boston Auto Dealers Assn.; Boston Commercial Vehicle Assn.

MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 2

New York, July 14, 1915

Ten cents a copy
Two dollars a year



Pierce-Arrow

JUSTIFIABLE confidence rides beside the man who
drives or is driven in a Pierce-Arrow Car.

The Pierce-Arrow Motor Car Company - - Buffalo, N. Y.

DANN Insert is the **ONLY** shock absorber which is operative not at one only, but at **EVERY** point throughout the entire length and breadth of every leaf of all four springs.

DANN Oil Cushion Springs
—with DANN Insert
ready installed
—Can be furnished for
any car.
Write.

"The Inter-leaf Shock Absorber"

FROM TIP to TIP

DANN Insert is supplied ready packed in boxes for all makes and models of cars. Send for price list.

Free Booklet, "The Story of the Inter-leaf Shock Absorber," sent on postal request. Learn the truth about shock absorbers!

A Shock Absorber BUILT INTO Your Springs

Bear in mind that a spring vibrates all over—not only at one end, but at each end of each leaf. Vibration is just exactly as vigorous at the rear ends of the front springs as it is at the front ends of the front springs.

DANN INSERT "The Inter-leaf Shock Absorber"

And vibration is just as active at the front ends of the rear springs as it is at the rear ends of the rear springs, at which point so-called shock absorbing devices are attached in a futile attempt to relieve the **ENTIRE CAR** of road shocks.

Consider that your car's **SPRINGS** are primarily shock absorbers, and are put on your car expressly for shock absorbing purposes.

In order, however, that a spring serve its fundamental purpose of a shock absorber, it is vitally necessary that it be brought to and kept at its highest efficiency.

The installation of DANN Insert is the only means known for insuring and maintaining the highest shock absorbing efficiency of a spring throughout its entire life of service.

DANN SPRING INSERT COMPANY

2265 Indiana Avenue

Chicago, Ill.

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So the garageman got one in which there were real cards instead of mental filing.

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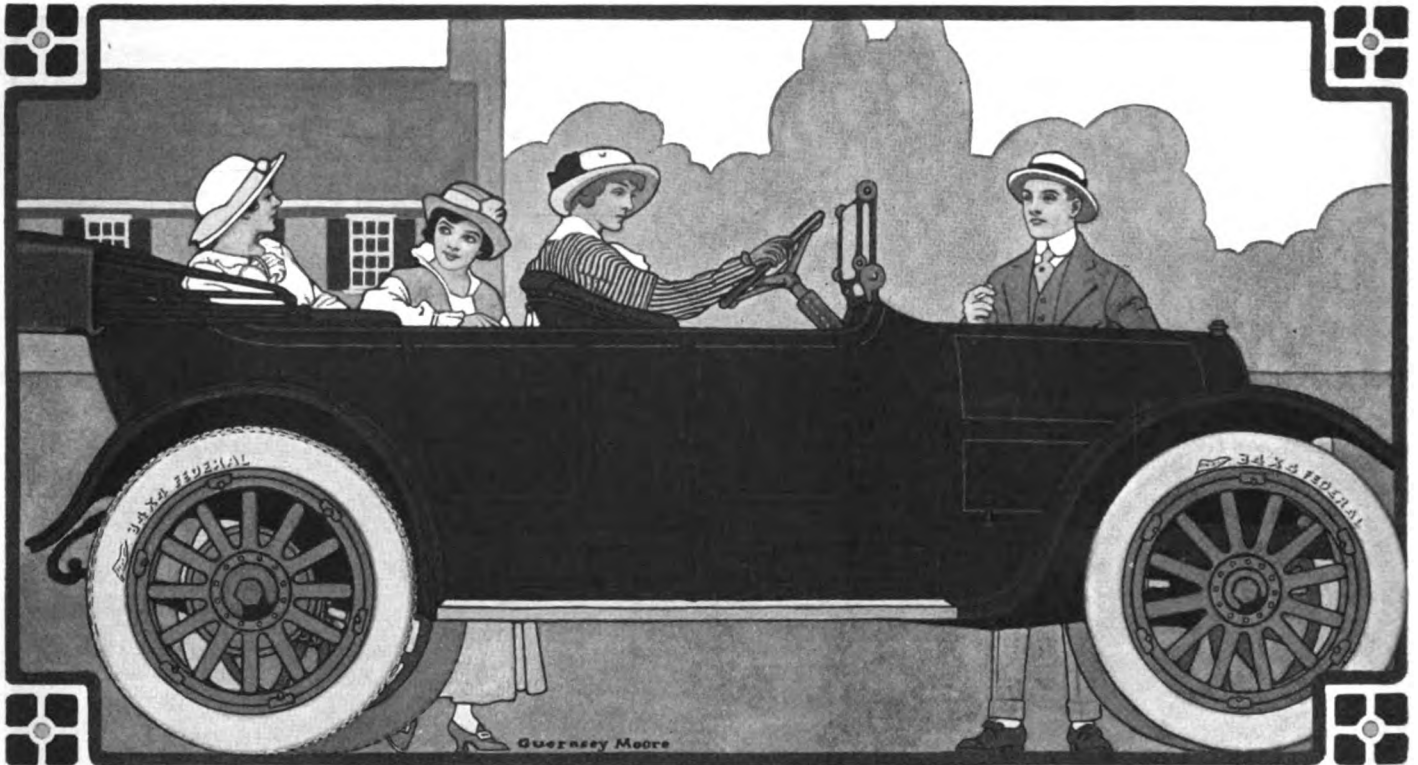
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By a new proposed law that bars them from residential sections.



Willys
Knight

\$1095

f. o. b. Toledo

The World's Lowest Priced Knight Motored Car

This announces, without doubt, the greatest achievement in the history of the automobile business.

A Knight motored car for \$1095!

The Knight is the automobile motor that revolutionized the entire motor car industry of Europe.

It is the motor that is used by practically all the leading European automobile manufacturers.

The Daimler of England, the Panhard of France, the Mercedes of Germany, the Minerva of Belgium are all equipped with the famous Knight motor.

And these are the motor cars that cost from \$4000 to \$8000!

Practically every titled family in Europe owns one or more Knight motored cars.

The Knight type motor is acknowledged to be the most highly developed automobile motor on the market.

This motor differs from other motors in that where all others deteriorate with use, **this improves**; to all others carbon is harmful, **here it is beneficial**; size for size it has **more power**.

It has **no noisy poppet valves**; **no noisy cams**; **no uncertain valve springs**; **no troublesome valves to grind**; **practically no wearing parts**.

It is the ideal automobile motor.

The Willys-Knight has the same advantages and is just as efficient as those costly European Knight cars.

Yet it costs but \$1095!

As we build more cars in a single week than most European manufacturers build in a whole year, we are able to utilize every modern manufacturing economy.

That is why our price is so much less.

The Willys-Knight, in our opinion, has the least vibration and is the smoothest, quietest, and most economical car made.

Have your demonstration at once.

Immediate deliveries.



40 horsepower Knight type motor; cylinders cast en bloc, 4 1/4-in. bore x 4 1/4-in. stroke
High-tension magneto ignition
114-inch wheelbase

Specifications:

Full-floating rear axle
Underslung rear springs
34" x 4" tires; non-skids rear
Demountable rims, one extra
Color: Royal blue with ivory striping; grey wheels

Electric starting and lighting system
Headlight dimmers
One-man mohair top
Rain-vision, ventilating type windshield

"Made in U. S. A."

Catalogue on request. Please address Dept. 375

The Willys-Overland Company, Toledo, Ohio

Also manufacturers of the famous Overland Automobiles

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, July 14, 1915

No. 2

His Memory System Fell Down So He Got a Real One

Illinois Garageman Devised Set of Checks on Points on Which He Had Had Trouble—They Saved Time, Effort and Money

GEORGE NETTZ stuck his hand into that storehouse of facts—which some folks call memory—and pulled out a fact. He looked at it, pushed it back and dragged out another.

He tried it again. This time he fired the fact on the floor and said Damn! He got up and walked around the office of his garage in the little town of Dixon, Ill., and decided that as a business man he was much on the fritz and that as a rememberer his batting average was about 80—with 10 off for cash.

The trouble was this: One of his customers had come in with a kick on tire mileage. He said he bought a tire and had run it only 2,000 miles, whereupon the tire had inconsiderately gone to pieces on him and caused him an undue amount of trouble. And since Nettz sold the tire he was to blame.

The Garageman Is Wrong

The man who said: "The customer is always right," should revise it to read: "The garageman is always wrong."

Now Nettz knew the car owner was trying to put one over. He knew that in the length of time the tire had been in service it was quite improbable that it could have been driven the short distance the owner said it had been. In fact, Nettz was so sure of it that he told the customer this very same thing.

"I remember—" began Nettz.

"I don't care what you remember," retorted the customer. "I'm telling you the tire gave out inside the guarantee and I want you to make good on it. That's all!"

Nettz made good. What else could he do?

Then he tried to remember. He kept reaching into that fact warehouse, but with poor results. The stock kept getting mixed up worse and worse. Finally

TIRES	
504	Nettz Garage Dixon, Illinois
SIZE	34X4 x 28
DATE	3/24/15
	349674
504	NAME John Smith
	ADDRESS Dixon
SIZE	34X4 x 28
SERIAL NO.	349674
DATE	4/1/15
SPEEDOMETER READING	5,976

Instead of trying to convince the customer that the garageman's memory is right the garageman produces this evidence tag

Nettz—who had just built a new garage—looked over his spick and span new place of business and decided that he had better discard that mental business system and put in one that worked with less effort and more results and that was more in keeping with his up-to-date garage. So he doped one out.

The system he evolved was designed to care for certain points on which he had had trouble. Knowing what these troubles were, he was in a good position to make a system that would care for

them. It was not like building a system for troubles that were not yet known.

One of the first things was that tire stock matter. The next time a car owner came in with a kick there was going to be some data on which to work. Nettz made a tag with a perforated line across the middle—shown at the left. The upper and lower halves carried the same number. Each half carried spaces for the size, make and serial number of the tire. The lower half in addition had spaces for a name, address, date and speedometer reading.

But Now—There's a Check

Now for every tire that goes into stock a tag is made out. The upper half of the tag is tied to the tire; the lower half goes into a drawer in the office, filed in numerical order, according to the serial number of the tag—not of the tire. When a man comes in to buy a tire and any tire is taken out of stock, the half of the card in the office is filled in with the buyer's name and address, the date and the speedometer reading of the car.

This half of the card, which had been filed serially in the drawer, is then put into another place and filed alphabetically under the buyer's name. All the cards remaining in the serial file represent the stock on hand. If the buyer comes in later and makes a claim the card at once shows the whole story. Checking the present mileage on his speedometer and that given on the card shows just how far the tire has run.

The tag also is a check on stock; watching the serial file drawer enables the girl in the office to know at all

No. 2 is both an order and claim check on the repair jobs. No. 3 is a check on Prest-O-Lite service. No. 4 keeps a perpetual stock inventory. No. 5 is a work order and claim check for transients. No. 6 records sales. No. 7 covers goods bought. No. 8 checks recharging operations

times the condition of the tire stock.

Then there was the matter of tire and tube repairs. Here another automatic memorizer was put to work. To each job that comes in a tag is tied—Fig. 2—and the lower half of the tag is given to the customer as a claim check. The part that is tied to the tire tells the date received, owner's name and address, date the job was promised, and work to be done. There are spaces where the charges are filled in. The claim check also carries the date promised. Having the work out on time is up to the foreman.

Prest-O-Lite tanks are handled much the same as are tires. The upper half of a tag—Fig. 3—is tied to the tank when it goes into stock, telling its number and size and the date received. The lower half goes into a serial file. After the sale the lower half is thrown away, since many of these tanks are never seen again by the man who sells them, and, anyway, there is no guarantee trouble.

Car owners used to dispute about battery recharging, and a tag was made to cover this emergency—Fig. 8. The upper half is tied to the battery and the lower half is a claim check. The upper half tells what was done, the hour started, the hour stopped and the rate per hour. These are preserved after delivery of the battery.

A tag was made for transient storage—Fig. 5. One half is tied to the car and constitutes the order for work. The lower half is a duplicate and is also a claim check. When the car goes out the half that was tied to the car is turned over to the floorman, who sends it to the office.

In the sale of supplies and accessories a check is provided—another automatic rememberer. Two copies, an original and a carbon, are made of each sale on an autographic register—Fig. 6. These tell who bought, what he bought and

when. The original goes to the customer and the carbon is filed; next day the carbons and the roll from the machine must agree.

He also employs a perpetual inventory. This is best understood by a study of the illustration of the card—Fig. 4. The "Part No." is the manufacturer's parts catalog number, and is the dealer's stock index number. "Classification" means what part of the car. "Description of parts" tells what the part is. "Date," "ordered," "order number," "order number received" and "parts received," are nearly self-explanatory. The card says that February 4, 1915, Netzt ordered 8

In ordering supplies or parts Fig. 7 is used, and the carbon is kept on file in the office. When the invoice is received it is checked against the carbon.

On repairs Fig. 9, 10 and 11 are used. The original of the order—Fig. 10—which tells specifically what is to be done, is kept by the bookkeeper. The carbon—Fig. 9—a stiff cardboard, goes to the foreman, who follows the repair orders and notes down upon the back of the card what parts he used and how long it took. These notes are copied by the bookkeeper to the back of the original order, which is ruled for these figures. From these the bill is made out.

No. 10 is the customer's order for repairs. No. 9 is the reverse of No. 10 and tells in detail what was done. No. 11 is an envelope containing the whole data and for keeping the foreman's copy clean

wrist pins, and that he received but 6. The card lacks a "date received" column. "Maximum" tells the limit above which the stock should not go and "minimum" fixes the low limit. "Shelf No." and "Bin No." need no explanation.

Every time a part is taken out the date is put down and the balance on hand is always left as the last lower right-hand figure, in this case 2. In this case 8 wrist pins were taken out February 8, 1915.

The foreman's copy goes in an envelope.

Between these tags and forms and his bookkeeper Netzt has been able to give his memory a rest. Also, he has learned that no card system is so faulty as one in which there are no cards.

Soap and Water

Page 10

A Knight-motored Car for the Average Purse

Willys-Overland's New Product Ready
at Less Than \$1,100

Motor Follows Knight Design -- Rest of Car
Is Like Overland

DELIVERIES are to begin at once on the new Willys-Knight car, which is the new product of the Willys-Overland Co., Toledo. It is to sell at \$1,095 as a touring car, and \$1,065 as a roadster, the lowest prices yet made in the history of the industry on a car equipped with the Knight sleeve-valve type of motor.

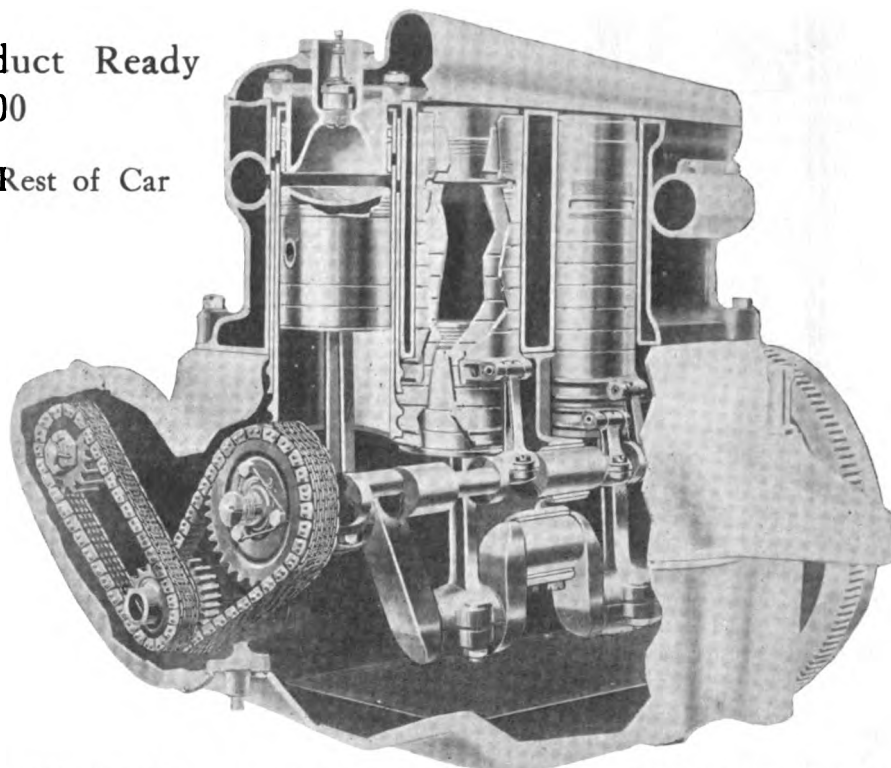
After several years of development and experimentation on the part of the Willys organization, following John N. Willys' conversion to the sleeve-valve motor through much experience with it in Europe, the new Knight-motored car comes as the result of the purpose of the concern to go into the manufacture of the type of engine in a big way.

Heretofore the sleeve-valve engine has never been regarded as a design which would admit of quantity production at a price within reach of the general run of automobile buyers, but the Willys-Overland Co. has shown that it can be done, and the new Willys-Knight is ample proof.

Nor do the present rather extensive production plans represent a finality as to the factory's sleeve-valve car output. In fact, the coming season's activities with the Knight car are regarded as merely the beginning of this model with the Willys organization. A separate branch of the factory, known as the Willys-Knight division, has been formed and it will handle the affairs of the sleeve-valve car separately from those of the other models.

The connection of the Willys-Overland Co. with the Knight engine goes back to 1912 and 1913, when Mr. Willys met Charles Y. Knight in Egypt. Away from the pressure of business in that restful country, the inventor told the manufacturer the story of the conception, development and final adoption of the Knight engine by several European manufacturers. But Mr. Willys was skeptical of its merits even then, and it was not until after he had taken a trip through Europe in a car having a sleeve-valve motor that he became convinced of its value.

This new engine, which is undoubtedly one of the lightest sleeve-valve types yet produced, has a bore of $4\frac{1}{8}$ inches and a stroke of $4\frac{1}{2}$ inches. The rating given it is 40 horsepower. Referring to the power curve, this is obtained at a speed of 1,500 r. p. m., which is not all



The Willys-Knight motor is in one block. Gas passages are large and direct. The compressed gas is confined directly above the piston in a chamber which approaches a spherical form. The point of ignition is directly above the center of the piston. The camshaft and generator drive are by silent chains at the front of the motor

there is in the engine by any means. With no falling off in the power—the power curve is practically straight—it attains 50 horsepower at 2,000 r. p. m.

THE WILLYS-KNIGHT TABULATED

Price—Touring	\$1,095
Roadster	1,065
Coupe	1,500
Limousine	1,750
Make of motor.....	Willys-Overland
Number of cylinders.....	Four
Shape	Knight
How cast.....	Block
Bore	$4\frac{1}{8}$
Stroke	$4\frac{1}{2}$
S. A. E. rating.....	27.25
Magneto	Dixie
Starting-lighting	Auto-Lite
Clutch	Cone
Gearset	3-speed
Tires, open cars.....	34 x 4
Tires, closed cars.....	35 x $4\frac{1}{2}$
Wheelbase	114
Wheels	Wood
Steering	Left
Control	Center
Type rear axle.....	Floating

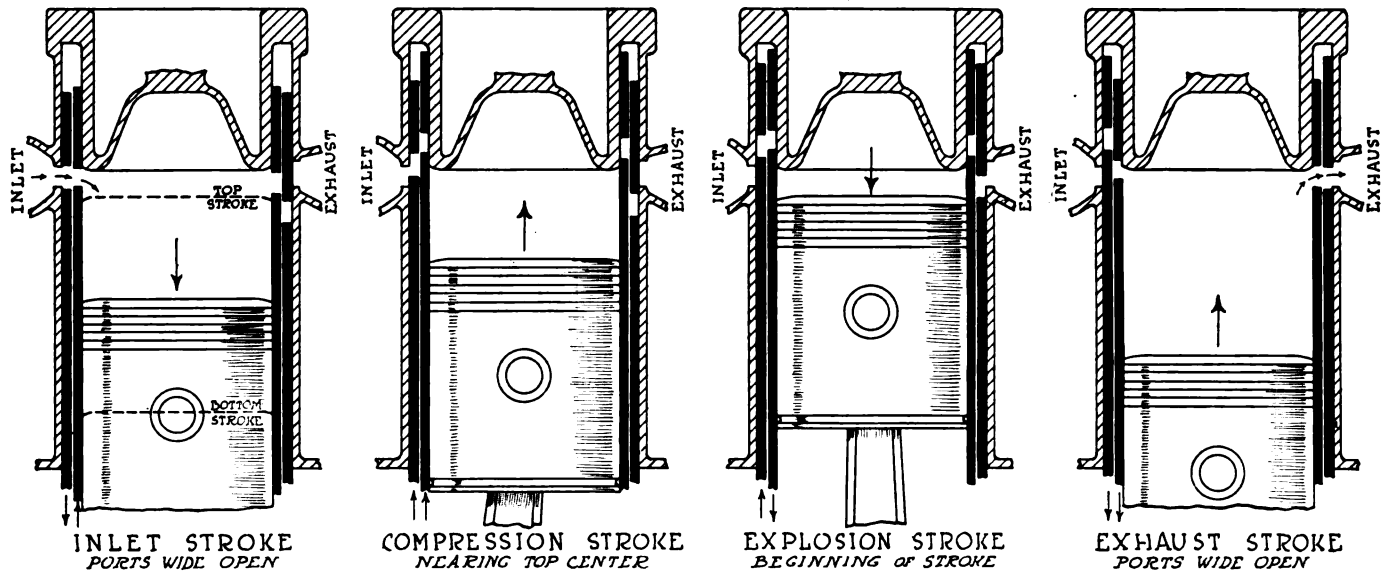
and at 1,000 delivers 29 horsepower. The precision method of valve actuation has much to do with the steady increase of power up to the maximum.

In outward appearance it is not unlike many of the clean-cut poppet types now being built. The cylinders are cast in

a block and attach to a two-part aluminum crankcase. In Knight engine building this is the second design to be made with the cylinders in one piece, and the production advantages are at once apparent. Thermo-syphon cooling is also applied to it, and here again there is only one other example. There is a separate aluminum plate covering the top of the cylinder block, forming the top of the waterjacket of the heads and the outlet to the radiator. It is held in place by four nuts which screw down on the tops of the cups in which the spark plugs are placed.

By the method of using the plate as the top of the waterjacket, it is possible to have the waterjackets around the cylinders communicate with the heads of the cylinders, which are individually detachable, as in all Knight engines. In many of the designs the heads are jacketed separately from the cylinders, and external piping is used to connect the two portions holding water. By the Willys construction water really goes all around the spark plug seat and entirely around the domed cylinder head.

In designing the cooling system one other point stands out of special importance, and that is the provision for draining the cylinder heads. In many Knight types an objection has been raised to the inability of draining the jacketed heads when the cooling system is drained. In the new Willys-Knight the head is so



These diagrams show the valve positions during the different parts of the cycle and the direction of movement in each case. The way in which the ports in the sleeves and the cylinder castings are brought together to provide openings and moved apart to close the passages is clearly shown

shaped that the water is literally syphoned from it when the system is emptied. This operation is automatic and obviates the necessity of removing the heads to get rid of the water when necessary.

The water inlet connection is also unusual in that the inlet pipe from the bottom of the radiator attaches to the lower part of the right side of the upper half of the crankcase. An integral passage in the case leads the water vertically upward to an opening in the bottom of the cylinder casting. The water is thus introduced into the cylinders at the mid point of the block length, giving equal distribution in each direction and allowing the complete surrounding of the cylinders with water throughout their entire length.

There is nothing unusual in the working out of the details of the sliding sleeves and their actuation from an eccentric shaft through the intermediary of small connecting-rods. Between the

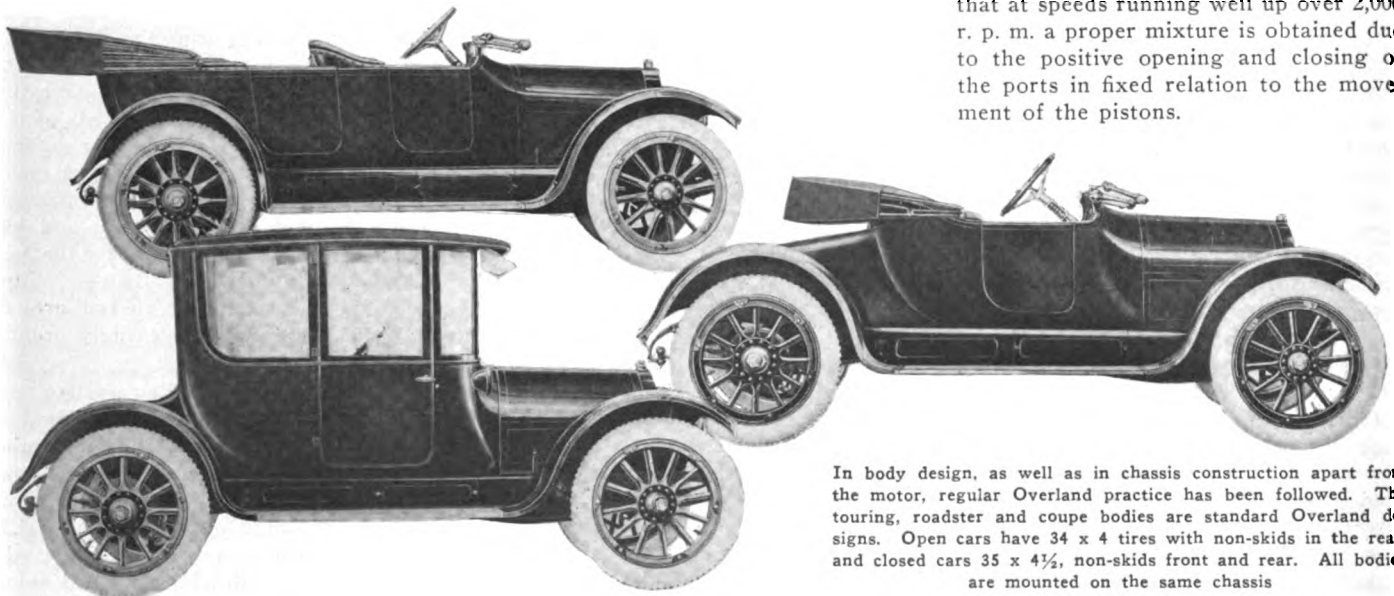
piston and the cylinder wall there are two sleeves, one within the other. These are reciprocated by the eccentric shaft, which is mounted on three bearings on the right side. The short connecting-rods attach at their lower end to the eccentric and at the upper end to bosses in the skirt of the sleeve, much in the same manner as a piston-rod attaches to the piston and crankshaft.

Near the top of each sleeve are slots of rectangular form passing part way around the circumference and on opposite sides. In the side of the cylinder are corresponding slits, that on the left communicating with the exhaust manifold and that on the right with the intake. When, in the slow up-and-down movement of the sleeves, the slots on the right side of the sleeves register with the opening in the cylinder wall, the intake port is open and there is a clear passage from the manifold to the inside of the cylinder through the two sleeves. Thus the three slots in the right side of

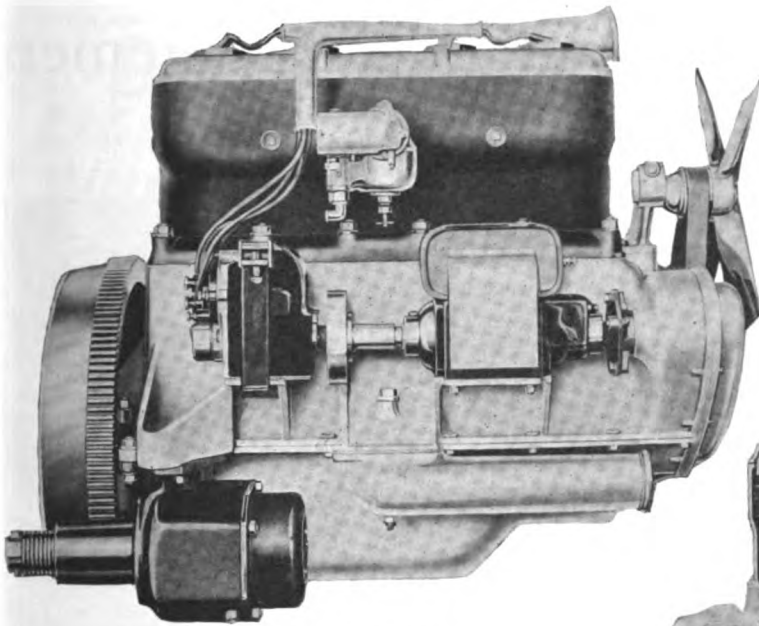
the cylinder block and sleeves form the intake port and when they come together the action is the same as when the valve of a poppet motor is raised by the cam.

The compression is held by the junk ring pressing against the inner sleeve and is in no way dependent upon the fit of the sleeves.

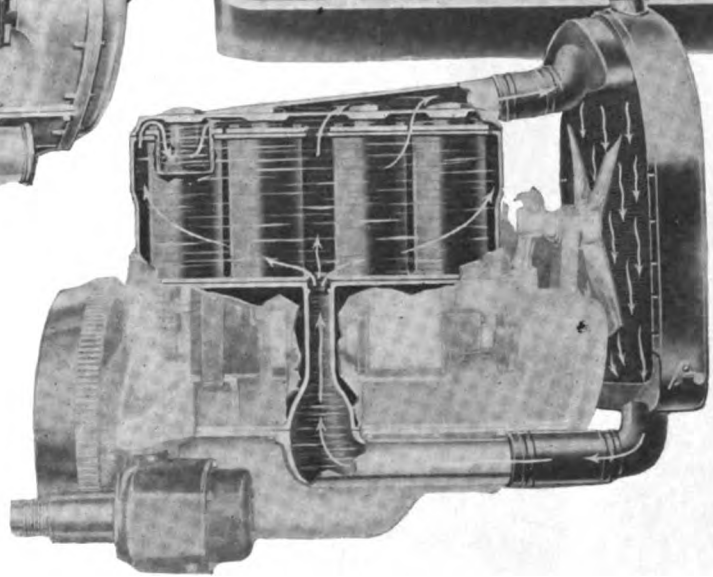
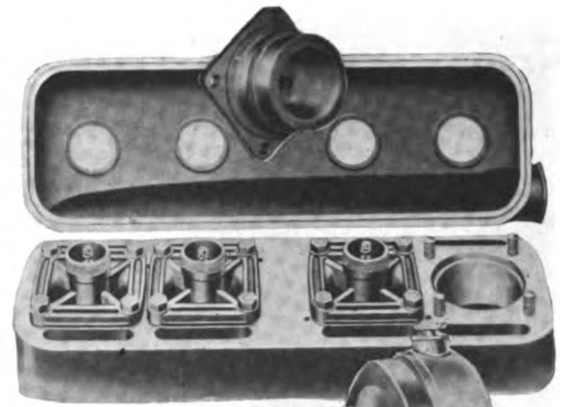
The slots for each valve are so placed in the sleeves that they register only at the proper time for either entrance or exhaust of the gas. The eccentric shaft is driven by a silent chain at the front from the crankshaft at one-half the speed of the crankshaft, and from the foregoing it is apparent that the opening and closing of the valves cannot vary, for they are operated entirely mechanically, differing from the poppet valve, which is closed by the spring. Therefore, no matter what the speed of the engine there is no chance for the sleeves to get out of time once they have been properly set. This is one of the strong claims of the Knight design, namely, that at speeds running well up over 2,000 r. p. m. a proper mixture is obtained due to the positive opening and closing of the ports in fixed relation to the movement of the pistons.



In body design, as well as in chassis construction apart from the motor, regular Overland practice has been followed. The touring, roadster and coupe bodies are standard Overland designs. Open cars have 34 x 4 tires with non-skids in the rear, and closed cars 35 x 4½, non-skids front and rear. All bodies are mounted on the same chassis



At the top is shown the head construction of the motor; one cylinder head is removed. The top casting forms a spacious water jacket. At the bottom the thermo-syphonic circulation of water is graphically indicated. The left picture gives an excellent idea of the clean exterior and the location of the Auto-Lite generator and motor and the Dixie magneto



From the standpoint of assembling and taking down, the method of holding the pins used for attaching the connecting rods to the sleeves is of interest. A small spring ring is fitted to the pin, and, when it is slipped through the sleeve bosses and the head of the rod, this ring springs into a groove in the inner surface of the top of the rod end. This groove is open at the top, so that in order to take the pin out all that is necessary is to use a screw driver or similar tool to press down on the spring ring until it clears the rod slot, when the pin can be slipped out.

The crankshaft is carried on three main bearings and is of the usual type. Pistons have concave heads, so that a nearly spherical combustion chamber results.

The exhaust manifold is a separate casting with an individual outlet from each cylinder with the idea of getting rid of the gases as quickly as possible. The intake manifold is within the cylinder block, no part of it being exposed, the carbureter bolting directly to the casting. Its position is quite high on the block, almost opposite the valves, which is possible because of the use of the Stewart vacuum fuel feed arrangement.

Simplicity has been the aim in the designing of the lubrication system. It is called a force feed and splash arrangement by the Willys engineers, but strictly this is not the correct term, for the ordinarily used splash troughs under the cylinders are absent. The oil is drawn up from the oil reservoir at the bottom of the crankcase by a unique pump operated from the eccentric shaft. It is forced through oil pipes to the crankshaft main bearings, eccentric shaft bearings and chains at the front. The crankshaft

webs are drilled, conveying the oil from the main bearings to the lower rod bearings. The overflow of these bearings is thrown by the rapid rotation of the shaft up into the sleeves and pistons. Thrown against the skirt of the sleeves, it is carried up between the sleeves by their own action. Circular grooves cut in the outside of each sleeve catch the oil and lift it up, distributing it as the sleeves travel.

The sleeves are drilled with $\frac{1}{8}$ -inch holes at certain intervals, allowing the oil spray below the piston to pass through the inner sleeve to aid lubrication between the sleeves and also to pass through the outer sleeve to aid in lubricating the contact surface between the outer sleeve and the cylinder wall. Suction caused by the intake vacuum tends to lift the oil up between the sleeves, doing its part in assisting the oiling.

The flow of oil is automatically taken care of by the interconnection of an oil by-pass with the throttle. Thus, the amount of oil supplied is in proportion to the throttle opening.

On the right side of the engine are the three electrical units, providing for ignition, starting and lighting. A silent chain outside of the eccentric-shaft chain drives the generator shaft at engine speed and back of the generator is the magneto, both resting on brackets on the crankcase. The starting motor is hung below the right rear arm and drives the flywheel through the Bendix gear.

The drive is through a cone clutch and three-speed gearset to a floating rear

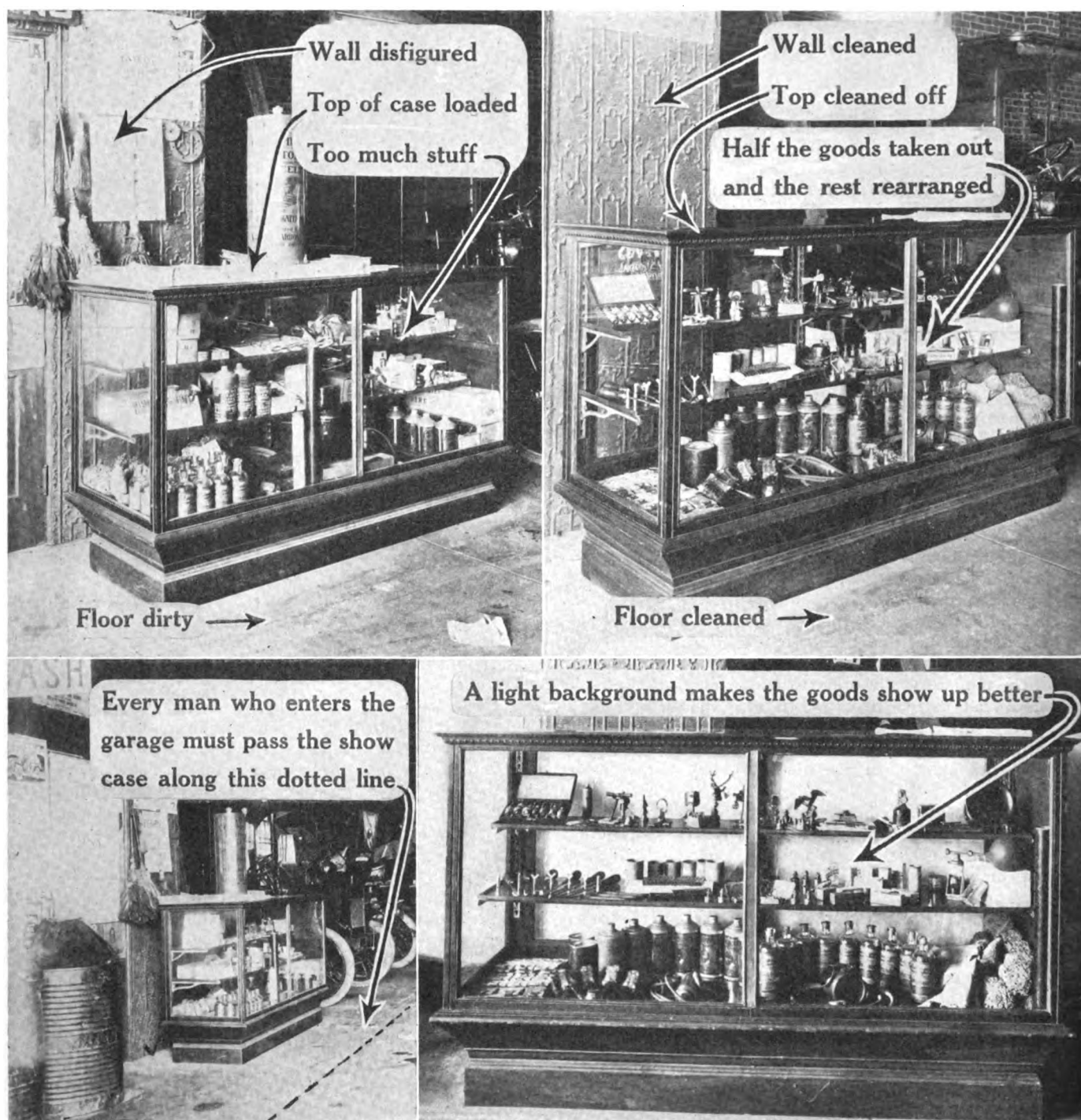
axle. The drive shaft, fitted with a universal at the front end, is enclosed within a torsion tube which attaches at its rear end to the gearbox. The latter is attached to the rear axle, a characteristic of cars of this make.

The rear suspension is by three-quarter elliptic springs which are underslung from the axle tubes. These springs measure 48 x 2 inches, while the front half-elliptics are 36 x $1\frac{3}{4}$. Brakes have plenty of power for the car, the drums having a 14-inch diameter with a width of $2\frac{1}{4}$ inches.

All four of the body types—touring car, roadster, coupe and limousine—are fitted to the one chassis, whose wheelbase is 114 inches. Bodies follow out the same general lines as other Overland types. The upholstery is of leather and doors are made wide and fit well into their panels. The fenders are crowned, which is always a point that adds to appearance. For the finish, royal blue with ivory striping has been decided upon as standard. Wheels are gray with fenders and trimmings of black enamel.

The touring, which car is only one of the types, sells for \$1,095. The roadster is still less, priced at \$1,065, while the coupe is \$1,500 and the limousine, a seven-passenger design, is \$1,750. Needless to say, each car carries complete equipment, with the open models fitted with 34 x 4 tires, non-skids in the rear, and the closed cars mounted on 35 x $4\frac{1}{2}$. non-skid all around.

Soap and Water and a Little Rearrangement Make a Big Difference



The pictures on this page show the accessory display of an eastern garageman. At the suggestion of Motor World he agreed to make certain changes, with the assistance of Motor World representatives.

The show case, for one thing, needed washing; so it, and the floor, were scrubbed up. Next, everything was taken out of the case and wiped off, which was sadly needed. Then, about half—or less—of the stuff was put back in.

Upper left—This is the show case before it was cleaned up. Dusters and old calendars disfigured the walls and the floor was unclean. The paper on the floor was there—it was not put there for photographic purposes.

Upper right—See how much better the wall and top of the case look. And note the orderly and less congested display. There is less than half as much stuff but it is still representative. Price cards would help greatly.

Lower left—This shows the excellent location.

Lower right—This shows what a difference is made by having a light-colored back to the case; it makes the goods stand out. To get this effect a sheet of common cheese cloth was held up behind the case. A permanent effect of a less rough and impromptu nature could be secured by glazing the back windows or covering them with a light-colored enamel or other substance.

**DON'T GROPE!
LIGHT UP AND SEE
WHAT YOU ARE DOING.**

**ELECTRIFY YOUR LAMPS.
A GREAT CONVENIENCE
AT A VERY SMALL COST**

You
Can Make
Cards Just as
Good as These—

THESE WINDOW
CARDS SELL
GOODS

**WHY NOT 'DOLL' YOUR
CAR UP A BIT? WE
HAVE EVERYTHING YOU NEED**

**KNOW WHAT YOUR STORAGE
BATTERY IS DOING EVERY DAY.
A TEST IN TIME SAVES \$\$\$**

**DON'T GET A SUMMONS,
USE A DASH LAMP IN SERIES
COME IN AND WE'LL EXPLAIN**



J. H. PARSONS
1697 Broadway, New
York city, who makes
his own signs

NO window display is complete without signs or cards. This is one of the fundamental principles of display.

Many garagemen and dealers do not feel competent to write cards that are suitable. Probably few of them really are able to turn out a perfect product.

But on this page is shown the way J. H. Parsons, a New York supplyman, does it. He makes his own signs with ink and a small brush—a very ordinary and inexpensive outfit. He prints them on common cardboard, usually the backs of discarded wall hangers and display signs.

One point is this: If he tried to do perfect work his signs would emphasize their imperfections, but since he

does not pretend to do perfect work their imperfections are less noticeable.

Another point is: The cards cause selling points to stick out; here is how the above cards were used:

Don't Grope—This was placed alongside an electric inspection lamp.

Electrify Your Lamps — This

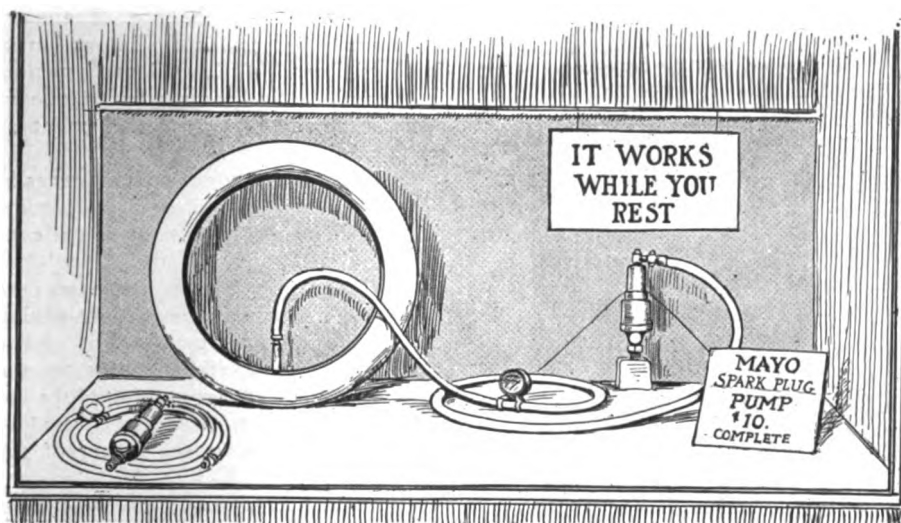
went with a reflector and bulb which are placed in a gas lamp, converting it into an electric lamp.

Why Not—This was used with a layout of cleaning materials.

Know What—With a hydrometer, for testing battery solutions.

Don't Get—In this way Parsons pointed out the desirability of having the tail-lamp and a dash lamp in series.

Here Is a Window That Can Be Set up at Slight Cost and with Little Labor



FIRST—Get the window in good condition, clean glass, clean woodwork and all ship-shape.

SECOND—Inflate a tube in a casing until it just nicely fills the casing; set the pump in a small block and if anything needs supporting tie it up with very fine wire—which is almost invisible—or tie it up with baby ribbon of a harmonizing color.

THIRD—It isn't hard to make the cards yourself, even if you never have done it. First, lay on the letter outlines in pencil and then apply the paint. Better still, get somebody to make them for you. As to signs, there is a suggestion at the top of this page.

New Inter-State \$150 Less

No Changes Made in Chassis
or Bodies

Production Centered on Single
Chassis

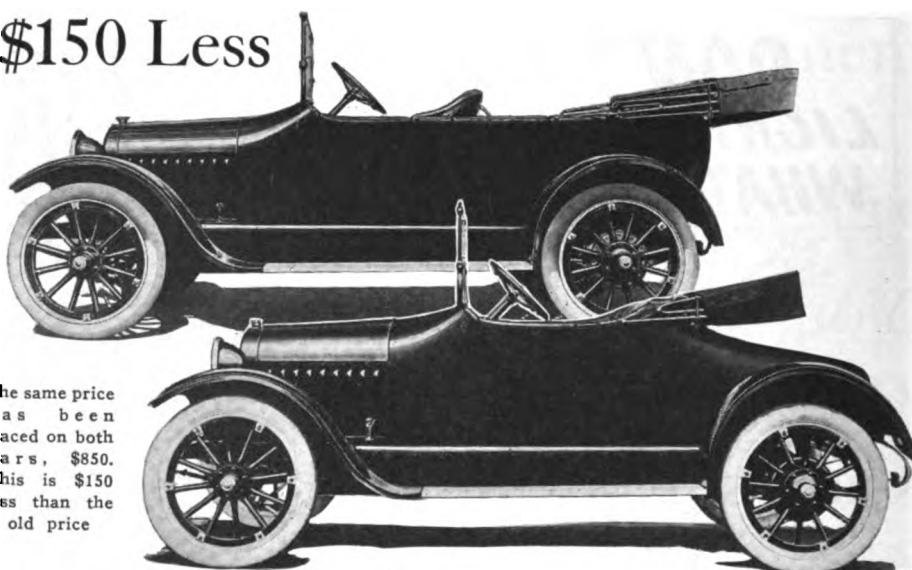
NO changes whatever have been made in the Inter-State chassis, manufactured by the Inter-State Motor Co., Muncie, Ind. An increase in production, however, has permitted a reduction in price; the car now sells for \$850 instead of the former figure of \$1,000. But one chassis is built, and this carries roadster and touring bodies at the same price.

The motor used is the Beaver, of the valve-in-the-head type, all the valves being mounted, with their overhead operating mechanism, in a detachable head which covers all four cylinders. Ball-joint rocker mechanism is used and an aluminum housing covers the valve gear. The cylinders are $3\frac{1}{2} \times 5$ and are cast integral with the upper half of the crankcase, which carries the three crankshaft bearings.

Thermo-syphon cooling, splash lubrication with oil constantly circulated by a gear-driven pump and Remy starting-lighting system with separate generator and starting motor are employed. Starting drive is through a Bendix gear. The lamps are of the dimming type for either city or country driving.

The clutch is a cone and the three-speed gearset is mounted as a unit with the rear axle system. The propeller shaft, extending from clutch to gearset, is enclosed in a substantial torque tube which takes driving stresses. With this construction the spring shackling is arranged to give the greatest possible freedom of spring action, contributing not a little to the easy riding of the car. Rear springs are three-quarter elliptic and are underslung. The rear axle is of the floating type; the gear ratio is 4 to 1.

The same price has been placed on both cars, \$850. This is \$150 less than the old price

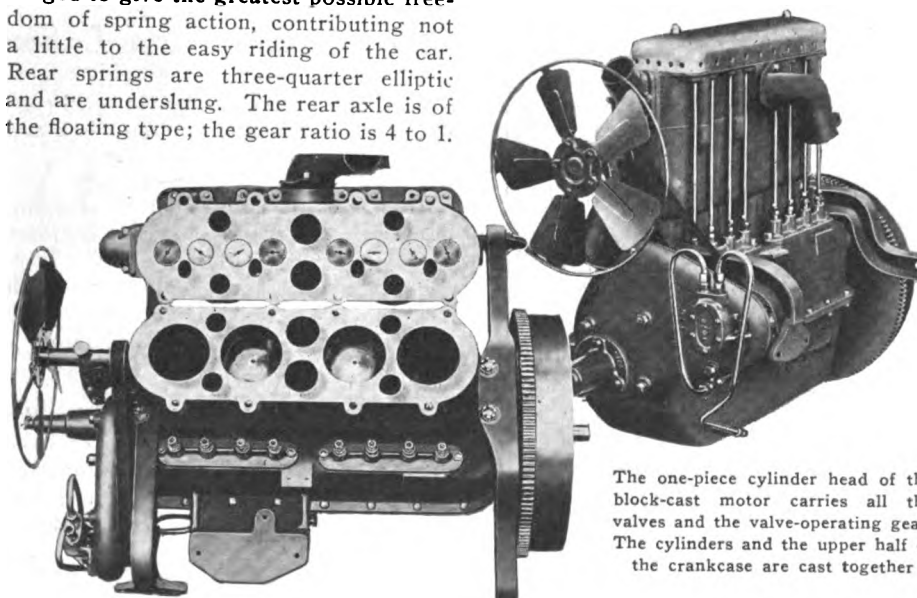


THE INTER-STATE IN BRIEF

Price, touring and roadster...	\$850
Color	Blue
Make of motor	Beaver
Number of cylinders	Four
Shape	Head valve
How cast	Block
Bore	$3\frac{1}{2}$
Stroke	5
S. A. E. rating	19.6
Ignition	Battery
Starting-lighting	Remy
Clutch	Cone
Gearset	3-speed
Wheelbase	110
Tires	33×4
Wheels	Wood
Steering	Left
Control	Center
Type of rear axle	Floating

Equipment: One-man top with cover and side curtains, double ventilating windshield, speedometer, gasoline gauge, robe and foot rails, rear tire carrier, one extra demountable rim, tools, jack.

Bodies, which are finished in blue, are of a conservative streamline design, and



The one-piece cylinder head of the block-cast motor carries all the valves and the valve-operating gear. The cylinders and the upper half of the crankcase are cast together

much attention has been given to the problem of obtaining maximum room for the passengers. In the touring car the rear seat is 47 inches wide and 21 inches deep, and the distance from the back of the front seat to the rear seat is 30 inches.

A short turning radius is secured by narrowing the frame at the front. The runningboards are clean and the skirts are worked up to meet the fenders, which are of the crowned variety, without a break. The metal-faced instrument board carries the usual necessities, including a speedometer, within easy reach of the driver.

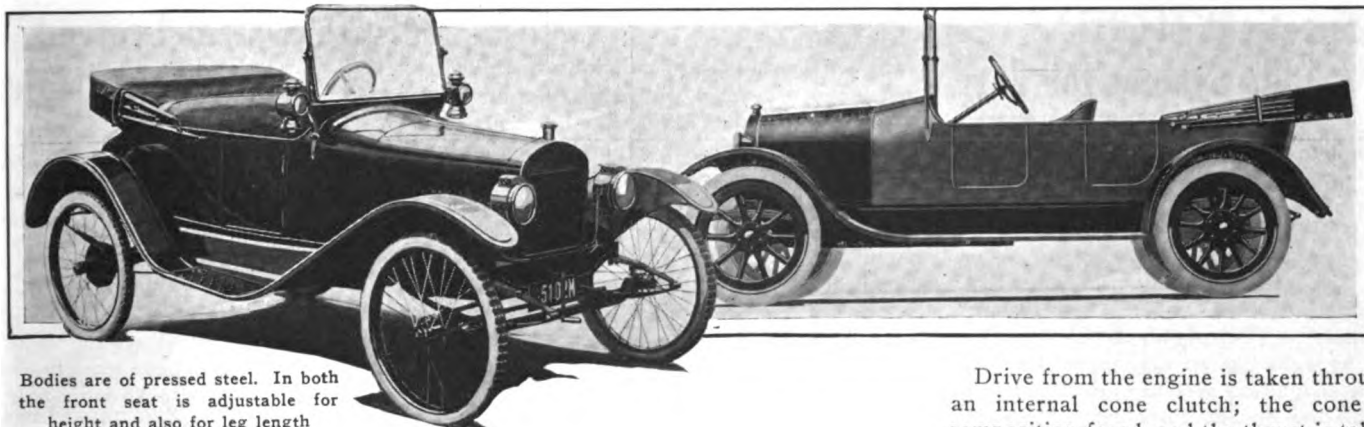
The equipment list includes a one-man top with cover and side curtains, double ventilating windshield, speedometer, gasoline gauge, robe and foot rails, tire carrier mounted at the rear of the car, an extra demountable rim, tools and jack.

Klaxon Patent Sustained

NEW YORK, July 10—The Lovell-McConnell Mfg. Co. has won its suit against the Oriental Rubber & Supply Co., a Brooklyn supply house, Judge Chatfield having rendered an opinion holding the Hutchison patent No. 1,120,057 valid and infringed by electric horns sold by the Oriental concern. The court has issued an interlocutory injunction in favor of Lovell-McConnell and appointing Joseph G. Cochran master to take an accounting and determine the extent of profits and damages.

The Hutchison patent which figures in the suit is one of 18 new mechanical patents covering details of horn construction taken out by the Lovell-McConnell company during the past year and covers a new construction having the drive shaft forming the axis of the electric motor at right angles to the plane of the diaphragm and slightly below the center. A face cam is used to vibrate the button at the center of the diaphragm.

The suit was in the U. S. district court for the eastern district of New York.



Bodies are of pressed steel. In both the front seat is adjustable for height and also for leg length

Standard Tread on 2 New Argos

Roadster at \$385 and Touring
Car at \$435—Both on
Same Chassis

A NEW chassis with standard tread and a number of improvements and differences over the first model, which had 44-inch tread, has been brought out by the Argo Motor Co., Jackson, Mich. The new roadster is of the lighter type and sells at \$385; on the same chassis a five-passenger body is fitted at \$435.

The specifications include a $2\frac{3}{4} \times 4\frac{1}{2}$ -inch motor, wheelbase of 96 inches, cone clutch, Atwater Kent ignition, left steering, semi-floating rear axle fitted with Bailey differential, elliptic spring suspension, two-speed gearset and 28×3 tires.

The motor is a block cast four, with the valves on the right and enclosed. Brake tests show $17\frac{1}{2}$ horsepower,

whereas the S. A. E. formula rates it as 12.1.

Cooling is by thermo-syphon, with a large water outlet across the top of the cylinder block, and splash oiling is fitted.

SPECIFICATIONS OF THE 1916 ARGO

Price—Roadster	\$385
Touring	435
Make of motor	Argo
Number of cylinders.....	Four
Shape	L-head
How cast.....	Block
Bore	$2\frac{3}{4}$
Stroke	$4\frac{1}{2}$
S. A. E. rating.....	12.1
Ignition	Atwater Kent
Clutch	Cone
Gearset	2-speed
Wheelbase	96
Tires	28×3
Wheels—Roadster	Wire
Wheels—Touring	Wood
Steering	Left
Control	Center
Type of rear axle....	Semi-floating

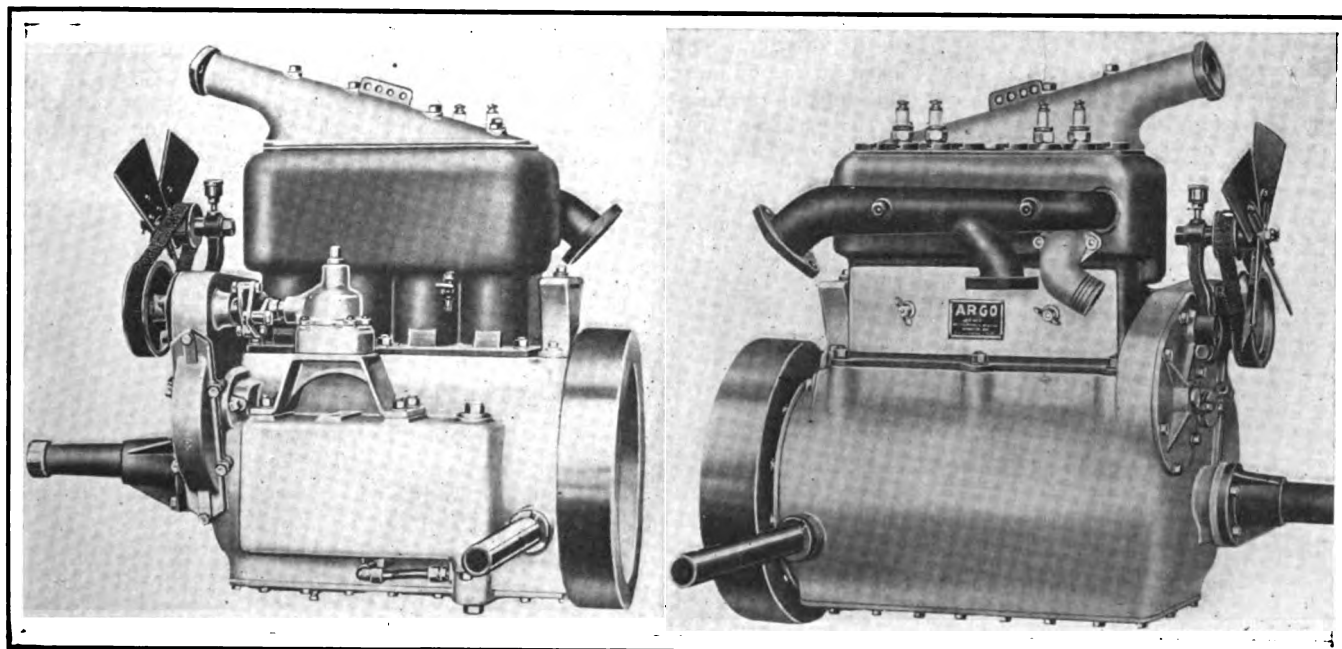
Equipment: Top and windshield, gas headlights, oil side and tail lights, horn, tire pump, tools.

Drive from the engine is taken through an internal cone clutch; the cone is composition-faced, and the thrust is taken by two Gurney bearings. Back of the clutch is a transmission brake and universal all in one. The outer part of the joint is a drum, and a band is fitted around it. The drive shaft is enclosed within a torsion tube, and there are radius rods running back to the axle.

Instead of using the usual form of differential the Bailey gearless type is fitted. This construction makes use of pawls, driving sectors and ratchets.

There is a surprising amount of room in the touring body, considering the chassis length. Of pressed steel construction throughout, this body gives room for three in the back seat with sufficient leg room. In both models the front seat is adjustable for height and leg room.

For \$60 additional the car is fitted with a single-unit Disco electric starting and lighting system. This attaches to the right side of the engine and is connected to the crankshaft just forward of the flywheel by a silent chain. Standard equipment includes top and windshield, top cover, tools, tire pump, horn, gas headlights and oil side and rear lamps.



The block-cast motor has cylinders $2\frac{3}{4} \times 4\frac{1}{2}$ and is of the high-speed type. Three-point suspension is used and water is circulated by thermo-syphonic action. Ignition is Atwater Kent and lubrication by splash

Connecticut Electric Adds System for Ford

**Complete Except for Battery, It Sells
for \$28.50 and Can Easily Be
Installed—Eliminates
Spark Lag**

MERIDEN, CONN., July 10—The Connecticut Telephone & Electric Co. has brought out an edition of the Connecticut ignition system especially adapted for use on any Ford car. The complete outfit, including wiring and everything except the battery, sells for \$28.50, and one of the features of its construction is that it can be very quickly installed.

The plate which fits over the timing gears of the Ford at the upper front portion of the crankcase is replaced by another which is interchangeable with it, but which contains the vertical shaft for the timer distributor together with the bevel gear drive necessary for operating it. On a bracket, integral with this same plate, the single unit coil, which is a high-tension non-vibrating design, is also mounted and connected to terminals on the timer distributor by short wires.

The remaining unit is a switch which includes the Connecticut feature of disconnecting the battery should the switch be left in the on position with the motor not running. The automatic release is effected by a small thermostat which becomes heated from the continuous current passing through it from the battery and bends over, making contact with a small buzzer coil arrangement which in turn kicks the switch out of contact. It is thus impossible to run down the battery by accidentally leaving the switch turned on.

Another feature of the switch is that it sets flush with the dash, having only the control buttons on their metal plate visible on the driver's side. The coil,

being mounted on the new timing gear plate which replaces the old one, does away with an awkward mounting of this instrument on the dash, thereby permitting a neat layout which can be easily installed with the tools generally in the possession of a car owner.

The Connecticut system operates on the open circuit scheme, the interrupter being so constructed that the primary circuit of the coil is completely saturated before the breaking point is reached in order to produce a spark of maximum intensity upon the interruption of the circuit. This and the distinctive feature included in the switch are two of the most important of the Connecticut ignition outfit.

It is claimed that with this system both electrical and mechanical lag have been eliminated throughout the range of motor speed. The breaker mechanism consists of an arm carrying one contact piece, a stationary block carrying the other, an insulated roller carried upon the arm and a cam mounted upon the driving shaft. On the driving cam there are four high spots for the Ford outfit, each of them being 90 degrees from the next. This allows a period for maximum saturation.

Synchronism of ignition, or that quality which allows the sparks to occur at the same relative part of the stroke, is obtained by the elimination of the electrical lag due to the intensity of the induced current. In other words, for all practical purposes the spark occurs at the same position as regards piston travel regardless of the speed of the engine or any given position of the spark timing lever.

The wiring of the system is very simple and, by following the directions, even an amateur will have no trouble in installing the outfit. The current is taken from the coil lead to the central point of the distributor mechanism and from there carried by means of a brush to the high-tension terminals; from there the current is taken on the high-tension lead directly to the spark plug.

Service System Evolved by Indianapolis Dealer

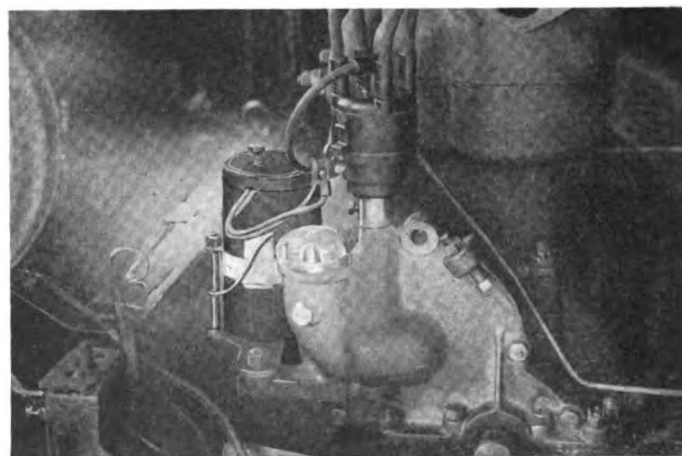
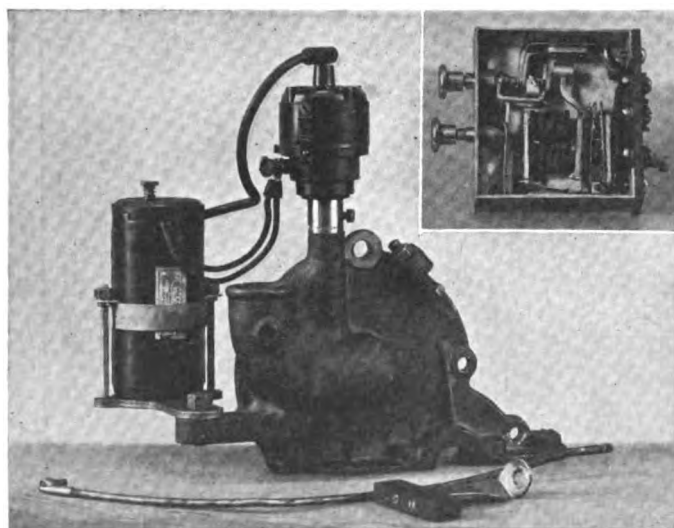
**Brown-Rowan-Buck to Give Seven Free
Inspections During First Six Months
Owner Has His 1916
Studebaker**

INDIANAPOLIS, IND., July 12—A free inspection service at regular intervals for six months has been inaugurated by the Brown-Rowan-Buck Auto Sales Co., 313 North Pennsylvania street. This free service goes with every 1916 Studebaker sold.

The system was worked out by President A. W. Buck and Secretary-treasurer J. V. Rowan. The system includes seven free inspections in six months. Sixty-one separate inspections are made on each car each time. The first inspection falls ten days after the car goes out. The six remaining inspections fall at regular intervals during the period of six months.

A notification card is mailed to the owner a day or two before his car is due for inspection and his attention is called to the fact that he is to leave his car at the service department for inspection on a certain date. An attached return card requests that he notify the company if it is inconvenient to leave the car for inspection on the regular date, and in that case a later inspection date will be set. Each purchaser of a 1916 Studebaker gets a service department card bearing his service number and all the dates of inspection on his car.

But what will be of the greatest value to the owner in becoming familiar with his car is the inspector's report. Blank spaces for reports on every part of the automobile on all seven inspections are contained on the report card. From the inspector's report the owner can tell just what he has neglected and govern himself accordingly.



The Connecticut ignition outfit for Fords includes coil, timer-distributor and driving gear, switch with automatic cut-out and wiring. A special timing gear housing is furnished. Almost anyone can install the system

Having to Be Checked up Costs You Money

By Ray W. Sherman

If You Require Supervision It Is Paid for Out of Your Own Pocket

GEORGIE LEWIS from Ben Doyno's supply and accessory store walked into Reilly's salesroom with a box under his arm. He deposited it on the desk and from it Reilly drew forth a big black horn. This was to be equipment on the demonstrator when delivered to Johnson, who didn't seem particular about anything except the horn. He probably would have bought a 1909 Flivver if it had been equipped with one of these big horns.

But, at that, Reilly considered he was making a good deal on the old 1915 demonstrator which had traveled many miles and had brought many a dollar into the Reilly cash drawer.

"Some horn!" said Georgie.

"Righto, boy! Some horn!" responded the dealer, himself admiring it lovingly. "And some price I have to pay that robber boss of yours for it, too. How is the old scoundrel?"

Old Friends

"All right, I guess," smiled Georgie. "He didn't take the tirade seriously, for he had often heard Reilly say worse things than that to Doyno himself. They had known each other so long they knew just what to call one another.

"How's your business, Georgie?" asked Reilly, giving the horn another turn in the light to see it shine.

"Pretty good—the work I do, not the salary I get," smiled the youth.

"That's good!"

"What do you mean? Good? The salary I get?"

"No, the work you do," laughed the car dealer.

"I'm going to look for another place pretty soon if Doyno doesn't come across with some more money," asserted the young accessory salesman.

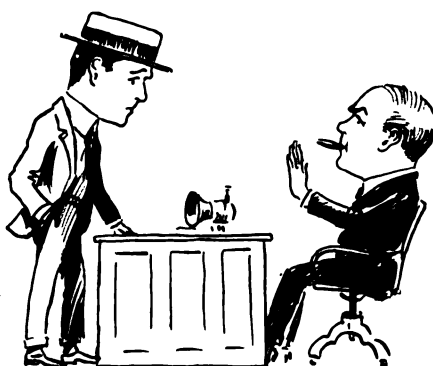
"Tut! Tut!" admonished Reilly. "What are you going to do? What line of work are you going into?"

"Oh, I don't know! Anything!" exclaimed Georgie. "I'm sick and tired of this job! I've been there now for more than a year and I haven't got but one raise. I supposed Doyno's was a good place to work, but I can't see it!"

"No?"

"No is right. I know just as much about things down there as several of the fellows who are getting four and five dollars a week more than I am. It makes me sore!"

"If you get sore enough maybe it'll do you good, Georgie," answered the dealer



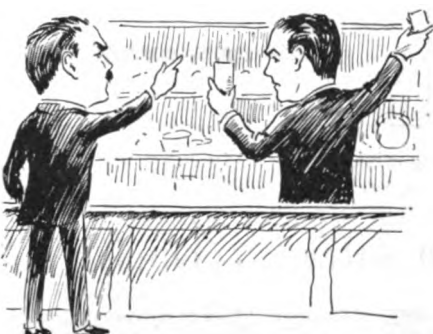
"And if they don't keep an eye on you you put it off. You procrastinate!"

with a smile in which there was a whole lot of meaning that Georgie didn't get.

"I'd like to know how Doyno dopes it out, this giving the other fellows more than he gives me. It's a mystery to me how some guys walk right along and others just as good can't make any headway at all."

"Sometimes it's a mystery—sometimes it isn't."

Georgie started back in alarm. He thought he recognized an insinuation.



"Some one has to be paid for supervising you and checking up on you. You don't do complete work"

"What!" he almost shouted. "Do you mean to say there's a reason why—"

"There must be, Georgie."

"But—"

Reilly Tells the Reason

"Now, wait!" Reilly raised an expostulating hand. "I've known Ben Doyno for years, Georgie, and I've always found him pretty square and on the level; also he's a very, very wise business man. He plays fair with every one, including the men who work for him, and while it's none of my business and perhaps I ought not to say anything to you about it, I think I can tell you something that may help you a whole lot if you take it to heart. But if you don't take it to heart I might better never tell you."

"Gee what do you think I am? A boob, not to want to hear something that might help me?"

Pay Is What You Don't Get -- The Man Who Watches You Gets It

"Well, if that's the way you feel about it, I'll tell you for a starter that I probably know more about the various men in Doyno's store than any other man outside of Doyno himself. We have always made a study of human nature, and we often talk over people we both know. We often talk over the men who work for us and even those who work for other people. We're interested in the subject as a subject."

"Yes, but—"

Reilly never noticed the interruption. He kept right on talking. "I remember when you went to work for Doyno," Reilly continued. "He had picked you out for a bright young man and thought you were going to develop into a good man for his business. But, to be frank with you, he's been disappointed in some ways."

"What?" Georgie's eyes stuck out in his eagerness.

Requires "Fathering"

"Well, for one thing—and it is the big reason why you haven't got more money—you haven't seemed able to get along without a whole lot of supervising. You don't seem to go ahead with work like the other fellows, the better paid ones at least. Whenever you are given a job it has got so some one has to check up on you to make sure you haven't made any mistakes. And if they don't keep an eye on you you are prone to neglect the job and put it off. You procrastinate."

"Do I, really?" There was pathos in Georgie's voice.

"You surely do," was Reilly's answer. "And that has been and is your big failing. Doyno—and every other man who pays out good money for assistance—expects that the men he has about him will take some of the burden off the shoulders of himself and the other men in the organization. You haven't taken all of the burden you should. You have actually put a burden on some of the others that they shouldn't be carrying, and that brings us to an analysis of the situation as it applies to yourself."

"The situation is this: In every business there is a certain amount of money paid for a certain work, and while it isn't exactly true when you come to figure out the answer it is true that you are giving to one or two of the other men in the office some of the money that should rightfully be hitched onto your own salary."

"I am!"

"You are! What are you getting?"

"Fifteen dollars."

"How much do you think you ought to get?"

"Eighteen anyway!"

"Well, from Doyno's standpoint you are doing only fifteen dollars' worth of work every week—perhaps not that. For every piece of work you do there has to be a certain amount of checking up and supervision. For that work a capable man is required, and because he is capable and able to check up your work he is paid better money than you are. He is being paid for doing part of your work. If you didn't require this constant checking up you would be worth more money than you are getting, but as it is the money you aren't getting is going to some one else who can do it. And it isn't because you can't do it; it's because you don't do it.

"Do I make myself clear?"

Georgie sat with his chin in his hand. "I guess so," was his answer.

"Suppose we had for a certain work an organization of men, each of whom was high-grade A number one and each able to do anything required. These men would all be worth the same money, wouldn't they? That is, with the exception of the one man who was manager. There always has to be a manager of some sort. He would be paid for doing a more important work, even if each of the others were able to do the same thing. But, in such a case his pay wouldn't be very much greater than that of the others.

"But, now, suppose we have another

organization in which the big body of men are not so high-grade and who re-

quire a lot of directing and supervising. There would have to be men to supervise them and these men would be worth more than the men who required supervising. The supervisors would be paid for doing part of the work of the men under them, wouldn't they?"

"Yes."

"That's exactly the situation in your case. You don't do complete work. You require directing and supervising, and because of that some one has to be paid for supervising you and checking up on you. You're not accurate, you don't make sure you're right before you say a job is done. And, now, why don't you?"

"I don't know." Georgie shook his head in sorrowful admission of his inability to understand himself.

"You've let yourself drift, my boy. And there are thousands of others with you," said Reilly, as he put his hand on the young man's shoulder. "The trade is full of mechanics, salesmen, office men and all kinds of men who will always get that just-a-little-less because they always require the help of some one else. They are incomplete. They are machines with a missing gear."

Georgie looked up with a wan smile and added: "Like a twelve-cylinder hitting only on eleven."

"GEAR GREASE"

— BY DOWDROP —

"ROBINS AND WORMS"

I SAW THE EARLY ROBIN AS HE PULLED AND TUGGED AWAY

I SAW THE SLIPPERY ANGLE WORM COME OUT AT BREAK 'O' DAY

I TRIED THE PULL AND TUGGING, THE GRUNTING AND THE LUGGING

BUT THE WORM REFUSED TO COME OUT ~~THAT~~ AWAY

I SAW AN AUTO SALESMAN ONE FINE DAY

I HEARD HIM MURMUR GENTLY OF THE MAY

HIS MOTORCAR WOULD EAT, AS IT RANLED DOWN THE STREET

BUT THE PROSPECT TURNED HIM DOWN

JUST ?-? ?-? THAT WAY

MORAL—A ROBIN CAN STRETCH A WORM WAY LONG AND MAKE A LIVING AT IT—A BRIGHT SALESMAN CAN DO THE SAME THING WITH THE TRUTH—UNLESS YOU ARE A ROBIN OF A SALESMAN TRY A SPADE

DR. BRADY

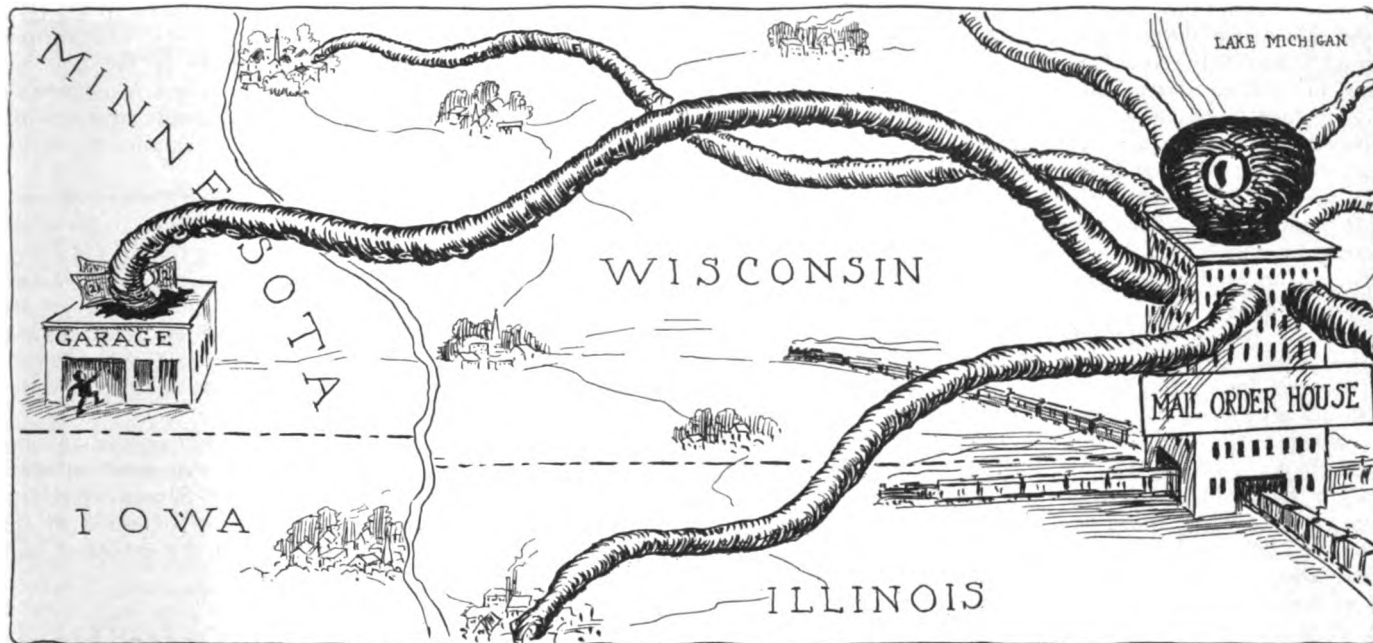


Even Oil Cans Make an Attractive Display



The Latham Auto Supply Co., 1455 Van Ness avenue, San Francisco, recently used this set-up. Note the low cans in front, higher ones back of them, still higher ones on the second tier with small cans between to break up the heavy effect, and the small stuff at the top. The signs are an important part of the display

The Accessory Dealer and the Mail Order Octopus



And in his heart the dealer damns the merchandising system which permits a merchant 350 miles away to shoot a tentacle out into this corner of a distant state and pick a profit of \$3.25 out of his cash drawer

It Is Taking from 5 to 66% of the Trade in Accessories and Supplies

THE door of the salesroom of the Edwards Auto Co. in Plainview, Minn., opens and Martin Mack walks in. Mack lives on a farm eight miles out in the country and has had a car for several months. He wants a speedometer.

W. G. Edwards, who has spent nearly a decade in building up this business and who is one of the best dealers in town, shows Mack the speedometer he will need.

"How much is it?" inquires the farmer.

"Ten dollars."

"I can't give you ten dollars for it, Edwards," says the car owner with deliberation. "I can buy that same thing from the mail order house for six seventy-five."

"But, Martin," argues the dealer, "six seventy-five is what I have to pay for it myself. I can't sell it for that. I'd lose money."

"That may be, Edwards, but I can't see my way clear to pay you ten dollars for something I can buy for three dollars and a quarter less, can I?"

Edwards has no argument in answer. He would not buy a thing himself for \$10 if he could get it somewhere else

for \$6.75. But it is with a heavy heart that he sees this prospective customer leave to place his order with a merchant in Chicago, 350 miles away.

And in his heart—and perhaps aloud—he damns the mail order houses, damns the manufacturer, and damns the merchandising system which ties him hand and foot and permits a merchant 350

The Octopus!

Mail order competition is cutting into the trade of the western dealer and garagemen at an alarming rate. When Motor World recently asked the accessory trade what was its greatest problem the answer, in emphatic terms, was: "The Mail Order House."

The extent to which it is taking trade from the dealer and garageman is told in this story through the figures of the accessory men themselves. Some of them suggest remedies; others say they are powerless to think or act.

Have you any remedy to suggest?

NEXT WEEK there will appear a story of how one man is combatting mail order competition. Watch for it!

THREE SUGGESTIONS BY ACCESSORY DEALERS TO THE ACCESSORY MAKERS

1—Do not sell goods to the mail order house.

2—Cut out the jobber and middle man and give his price to the dealer.

3—Do not sell to the mail order house at a less price than the dealer has to pay.

miles away to shoot a tentacle out into this corner of a distant state and pick a profit of \$3.25 out of the Edwards cash drawer.

And this is not fantasy! It is not a possibility! It is a reality! And no man is more aware of the coldness and sternness of this reality than Edwards and the thousands of other dealers all over the United States. They want to combat the mail order houses—but they don't know how. Meet them in competition they cannot, for the mail order house seems to be able to buy at a figure which permits it to sell at a price often as low as what the dealer has to pay at wholesale.

Last year one mail order house, Sears, Roebuck & Co., shipped \$102,000,000 worth of merchandise—and part of it was motor car supplies and accessories.

There are numerous other businesses of this kind and the annual volume turned over is enormous.

There are thousands of dealers not unlike Edwards in size and location. He is a good small-town dealer. Plainview is typical of many small towns. Its population at the last census was 1,175, and at the same time there were in Minnesota 82 towns between 1,000 and 1,200, and in the United States 2,920.

Under 1,000 population there were in Minnesota 2,670 towns, and in the United States 125,930. Between 1,000 and 5,000 there were in Minnesota 66 and in the whole country 4,799. This makes up the big army of small towns, which are harder hit by the catalog houses than those of greater size.

Plainview is the center of a small rural section. It lies on the end of a short branch line of the Chicago & North Western. The town has a money order post office, a Western Union telegraph office and an American Express office. It lies in the middle of a triangle at the three points of which are: At the north, Wabasha, 2,622 population; east, Winona, 18,583; west, Rochester, 7,844. The main line of the railroad runs across the bottom of the triangle and to get out of Plainview one has to go south on the branch road to the main line.

It is about 18 miles in a direct line to Wabasha or Rochester and about 28 miles overland to Winona. These towns hem Plainview in and restrict the territory from which Edwards may draw trade. Also, it is but 350 miles to Chicago and 80 miles to Minneapolis, all of which things prevent Edwards and his fellow dealers from having a monopoly of the accessory trade. On cars their contracts generally protect them.

His Supply Trade

As to Edwards himself, he started in with a garage and repairshop and got the Buick agency; later he took on the Chevrolet and the Ford. These cars are logical vehicles for the buyers of this section so far as price is concerned. To round out his business, as every garageman should do, Edwards maintains an accessory and supply store, which is where he bucks up against the mail order house. Without the latter he could build up a paying business; as it is, much of his supply business is sales for emergencies or to the man who doesn't want to bother with sending to the catalog house.

The home libraries, which used to consist of a dictionary and a Bible, now generally include one of these bulky catalogs.

What has gone before in this story has summed up the situation as it exists; what the dealer wants is that it shall not continue to exist. Motor World recently sent to dealers in Minnesota, Nebraska, Nevada, Washington, Iowa and

North Carolina an inquiry as to whether the mail order business affected them and also asked them what improvement they could recommend in the relations between the manufacturer and the dealer. The replies of the Iowa dealers on the latter question appeared in Motor World March 31, and the mail order house was a prime cause of complaint.

The states to which inquiries were sent are so scattered as to provide a national aspect, showing that the mail order house is not local in its ramifications.

The Proposed Remedies

The extent to which the mail order house cuts into the dealer's tire and supply business is, as stated by the dealers, from 10 to 50 per cent, with an average of about 30 per cent.

The remedies proposed to the manufacturer are of three general classes, as shown in the table on page 17.

The first suggestion is probably the least practicable. The second probably would not meet with much approval, but as to the third, there might be a possibility of its being worked out. What undoubtedly happens in many cases is

The Accessory Dealers Say the Mail Order House Gets from 5 to 66% of Their Trade

25%. The best price we can get on a — speedometer is \$6.75 each. The mail order house advertises them to the consumer at the same price. The manufacturer should stop selling to the mail order house unless the mail order house charges a reasonable profit.—Edwards Auto Co., Plainview, Minn.

We find it quite difficult to compete with the mail order houses because they are simply cheaper than our retail prices and almost as cheap as our manufacturers quote us. Have the manufacturers cut out the mail order houses or else we quit doing business with them.—W. J. Nelson, Amboy Garage, Amboy, Minn.

Probably 20%. The so-called Buyers' League is stirring up a lot of trouble also. Some of our own customers are sending outside to get parts at cut rates. We believe personally that all dealers should avoid buying knowingly from a house that allows mail order competition with its customers.—G. N. Brooks, Chicago Garage & Sales Co., Inc., Missoula, Mont.

Stop Price-cutting

We certainly have to compete with mail order houses, and the tendency is growing every day. Standard goods are sold at a price reduced about 30%. Manufacturers should set a price at which his goods should be retailed and sell to none that cut this price.—Lake City Garage, Lake City, Minn.

I think something must be done to stop these mail order houses or the garageman will have to drop the accessory business. There is great competition except in the case of tires, and I think the tire manufacturers are after the mail order houses pretty hard; that is, the leading tire makers.—J. L. Ingram, Marion Garage, Marion, Ia.

They sell everything. Can't suggest

that the mail order house, because of its big purchases, is given a jobber's price. And, since the mail order house is founded on low selling expense, big turnover and a small profit, it can undersell the dealer. He is powerless. He feels that since the mail order house is purely a retailer it should be in his class so far as the buying price is concerned.

No better statement of the opinions of the accessory retailers is obtainable than that given in excerpts from the remarks of some of the replies to Motor World.

There are 198 in all. Of these, 86 commented directly on the mail order situation and told what per cent of their business the mail order house gets; 95 said merely "yes" or "to some extent"; 4 did not touch upon the situation at all, and of the 198 but 13 said they were not troubled by the inroads of the mail order man.

Of the 198, here follow the 86 who gave percentages or expressed an opinion. The percentage figures which appear at the beginning of some of the paragraphs represent the extent of mail order business.

any remedy save that the makers of accessories can control the situation if they will.—Ridder Auto Co., Klemme, Ia.

At least two-thirds.—F. L. Emery, What Cheer, Ia.

25%. The mail order houses do about 25% of the accessory business in our opinion in this locality. If we had some way of compelling the mail order customers to go to the same place for their free air and carburetor adjustments it would be easy to change their way of buying.—Wise Auto Co., Villisca, Ia.

Over 50%

Over 50%.—Big Timber Garage, Big Timber, Mont.

Manufacturers should not market their goods through mail order houses.—Griswold Machine & Auto Co., Griswold, Ia.

50%. They sell more than half the goods sold here.—W. R. Davidson, Keosauqua, Ia.

They sell to car owners as cheaply as we can buy of the wholesale house.—A. E. Smith, Redfield, Ia.

About 50%.—G. B. McCall, Guide Rock, Neb.

The mail order house is the worst thing we have to contend with.—E. W. Teale, Teale Auto Co., Davis City, Ia.

About 50%.—C. E. Harmon, Wyman, Ia.

They are getting stronger every day.—J. M. Allen, Auto Sales Co., Nevada, Ia.

About 50%

About 50%.—Joseph Walch, Monona, Ia.

33⅓%. The manufacturer should sell to dealers at such prices that they can sell at least as cheap as does the catalog house.—F. G. Held, Kenyon, Minn.

50%.—R. H. Daniel, Glenwood, Ia.

About 50%.—Montana Auto & Machine Co., Billings, Mont.

We understand the — people sold their plugs to the — mail order house.—Krob, Zenishek & Co., Solon, Ia.

The mail order houses send out catalogs which give prices that are the same as we have to pay.—Craig & Kibler, Stanhope, Ia.

50%.—Archer Auto Co., Archer, Ia.
I would suggest that the manufacturers refuse to sell to mail order houses and deal only with jobbers.—C. Jensen, Jensen Bros., Currie, Minn.

About 50%

About 50%.—C. B. Ferbuson, Parkersburg, Ia.

I would suggest that mail order houses be forbidden to sell accessories at the price the dealer pays.—Osseo Hardware Co., Osseo, Minn.

About 50% of the accessory business.—H. C. Hartwig, Clutier, Ia.

Also competition from motor leagues, which sell to members at cost. Let manufacturers stop selling to jobbers and this will cease.—A. L. Wellem, Grand Rapids, Minn.

About 50% of the tire business and about 5% of the accessories.—Aubry Motor Co., Perry, Ia.

50%. Competition? You bet we do! I should judge about 50%, particularly from oil men who sell direct to the consumer at the same price as to the dealer.—J. W. Banks, State Center, Ia.

About 40%

The tire business has dropped off considerably because of the mail order house.—M. E. Paton, Cascade Garage, Cashmere, Wash.

About 40%. We compete where it is possible to do so with profit.—Armfield-Percival Motor Co., Inc., Fayetteville, N. C.

40%. Cut the middle man out as much as possible and in that way compete with the mail order house and clubs.—Washington Motor Car Co., Washington, N. C.

33⅓%, and getting worse.—C. E. Conger, Bristow, Ia.

33⅓%. Cut out the mail order houses.—E. G. Bader, Hamilton Auto Co., Inc., Hamilton, Mont.

Nearly every automobile owner buys his accessories from a mail order house.—F. A. Brady, Farmers Supply Co., Henderson, Minn.

33⅓%.—Chambers Auto Co., Greenfield, Ia.

We Think 50%

50%. We think about 50%. All owners get catalogs from these houses and it is a big inroad on the garage business.—J. H. Schiltz, Rochester Motor Car Co., Rochester, Minn.

About one-third.—J. O. Caviness, Packwood, Ia.

Manufacturers should not sell their cheaper grades to mail order houses.—Lawrey, Melter & Pelton, Cherokee, Ia.

About 40%. Have manufacturer cut out selling to mail order house.—Jacob Bender & Sons, Sutton, Neb.

Probably 33⅓%.—Frisch & Johnson, St. Charles, Minn.

The main reason for their trade is the lower prices that the mail order houses make. They undersell us. If we should

compete with them we would have no profit.—C. J. Thoreson, Ellsworth, Ia.

Possibly 33⅓%.—George C. Coverston, Fallon Garage, Fallon, Nev.

Everybody seems to have some place to get goods at wholesale.—Whitaker Implement & Harness Co., Red Oak, Ia.

Possibly one-third.—Jenks & Son, Prairie City, Ia.

Mail order houses are our strongest competitors, selling accessories for what they cost us.—Charles N. Hoffa, Sanborn, Ia.

They sell about one-third of the tires sold here.—J. H. Guzman, Iowa City, Ia.

Very large orders are placed with the mail order houses by this territory.—J. S. Dovrok, Dovrok Bros. & Tuma, Montgomery, Minn.

Sweep Out Mail Order House

25%. The mail order house should be swept off the map.—Kennedy Implement Co., Kennedy, Minn.

Mail order competition to some extent, but the various "auto leagues" are the greatest cut-price competition.—Asheville Automobile Co., Asheville, N. C.

About 25%. Dealers should be able to buy at the same price as catalog houses.—J. W. Rhodes, Baldwin, Ia.

A prominent clothing merchant showed me a tire that he purchased from a cut-rate house for about half price. I showed him a suit of clothes that I bought from a mail order house for \$4.50. It was a damned lie, but it struck home.—J. O. Kellett, Kellett's Auto Shop, Butte, Mont.

25%. Think mail order houses supply about one-fourth the total trade.—William Knotte Co., Stuart, Neb.

About 25%

About 25%. The greatest trouble is that the wholesaler sells to the mail order house.—Tipton Auto Supply & Machine Shop, Tipton, Ia.

25%.—C. O. England, England Auto Co., Van Meter, Ia.

A great number of our customers have joined a cooperative society or company doing business in Chicago.—Auto Supply & Engine Co., Fort Madison, Ia.

Probably 25% of tires; not many accessories.—Jackson & Pritchard, Oakland, Ia.

25%.—F. S. Smith, Pierce County Auto Co., Puyallup, Wash.

About 25% of our trade goes to mail order houses.—Salyers & Kayton, Malvern, Ia.

We also have trouble with the mail order house which travels and sells stock in the company for about \$10 and sells the customer at cost.—G. L. McKnight, Mooresville, N. C.

About 25%

About 25%.—Denison Auto Co., Denison, Ia.

They sell vulcanizers and small articles; some casings.—F. F. Nicolls, Pier-son, Ia.

25%.—Melvin Auto Co., Melvin, Ia.

It is mostly our business men who get their accessories and supplies from mail order houses.—E. F. W. Schroeder, Preston Auto Sales Co., Preston, Ia.

About 20%.—Larson Bros., Sidney, Ia.

20%; tires and accessories.—Parkhurst-Lavender Auto Co., Webster City, Ia.

20%.—Universal Auto Co., Crete, Neb.

The mail order houses do a big business in oils, tubes and casings.—Lemley Auto Co., Russell, Ia.

About 20%.—Currier & Githens, Fremont, Ia.

The mail order houses send catalogs to every car owner in our territory, and many of them buy goods.—Iona Auto Co., Iona, Minn.

About one-sixth.—Whyte Auto Co., Goldfield, Ia.

15 to 25%—and Growing

Perhaps one-sixth of the accessory business.—Odebolt Auto & Supply Co., Odebolt, Ia.

15 to 25%, and it is gradually growing.—Auto Inn Garage, Keokuk, Ia.

A few buy from mail order houses. We do not try to compete in price but talk quality of goods.—R. S. Johnston, Columbus City Auto Co., Columbus City, Ia.

About 15% of tires and oils.—John Weitzel, Cass County Auto Co., Atlantic, Ia.

About 10%.—Laybourn Auto Co., Grundy Center, Ia.

Mostly in oil, grease and accessories.—M. C. Carson & Co., North English, Ia.

About 10%

About 10%.—F. H. Beebe, Beebe Auto Co., Logan, Ia.

About 10%.—Smith Hardware Co., Pine City, Minn.

Difficult to estimate. They sell more accessories than tires.—E. P. Armknecht, Donnellson, Ia.

About 10%.—W. A. Chauncey, Dunlap, Ia.

5 to 10%.—J. S. Davis Auto Co., North Platte, Neb.

About 5%.—Knierim Auto Co., Knierim, Ia.

5% of farm trade.—Ryder & Karr, Estherville, Ia.

Don't think it is more than 5%.—A. C. Hanson, McCallsburg, Ia.

\$3,000,000 of Twin Sixes Sold

DETROIT, July 10—Within three weeks after the Packard Motor Car Co. was in a position to accept orders for the new Twin Six customers' specifications for more than \$3,000,000 worth of cars had been received at the factory. These orders did not include the many options held by hundreds of persons who were awaiting their opportunity to see and ride in demonstrators. Practically all those placing orders did so without having ridden in the new car.

Vice-president and General Manager Alvan Macauley predicts that the output for the 1916 season will be disposed of by January 1.

Soap and Water

Page 10

WIDE-AWAKE MERCHANDISING

\$20,000 GARAGE AND AT NO COST

His Saving in Insurance Paid Interest on the Money

About eight years ago a certain dealer who is now making \$25,000 a year started a business. For the first two years it showed little progress beyond a certain point. He was doing as well as the other men in town but no better.

He felt that the fact that his garage building was no better and no larger than the others was one reason why his business growth was at a standstill; he needed room to expand; in a bigger, more attractive place he was certain more trade would naturally come to him.

But the question was how to get this ideal building. After all, could he afford it? He got busy with paper and pencil to figure out how. Soon it struck him that he was paying a total of \$1,200 a year for insurance, and that this might be entirely eliminated with reasonable safety by having an absolutely fireproof building. This \$1,200 was the interest on \$20,000 at 5 per cent, so even if he had the new place and his receipts did not increase he saw he would be losing no money.

Borrowed the Money

He had a piece of property suitable for a garage site, he borrowed \$20,000 to put up a building, and when it was completed he had by far the best garage and showroom in town. People flocked to his place because it was clean and attractive; and transients invariably patronized him because they felt that they would be properly treated at such a fine garage.

Soon he repaid the \$20,000, and since then has erected an addition that doubles the capacity. This, too, has been paid for, and at the present time his net profits are in excess of \$25,000 per year and are still growing.

There are two important conclusions to be drawn from this man's experience: One is that it is foolish to pay insurance when it can be largely eliminated by constructing a fireproof building; the

other is that the man with the most attractive place of business is the one that will have the biggest trade. It is a safe rule that the receipts are proportional to the attractiveness of the building.

STORAGE—25 CENTS A DAY!

Increase your receipts by offering day storage at 25 cents per car!

There is a big demand in every community for this service. There are many owners who do not like to leave their cars unattended and would gladly pay 25 cents to know that it was under proper supervision and could come to no harm.

Many garagemen are giving this sort of service; it costs little and the money taken in this way is practically "found." The general rule is to give storage for 5 hours or less for 25 cents.

ARE YOU OVERCONFIDENT?

Overconfidence is a trouble to which many salesmen fall heir.

Sometimes it is overconfidence of their own ability; they think their ability is greater than that of some who are competing with them for the sale of a car, and as a result they do not put forth maximum effort.

At other times they overestimate the car they are selling; they are so saturated with arguments in favor of their product and against the others in the field that they feel every prospect must soon become imbued with the same ideas. They sometimes forget that their opinions are not based entirely on fact but on the psychological effect of continually being in an atmosphere where statements commendatory to this make of car, and derogatory to others, are continually being made either by themselves or within their hearing.

TRY THE COAT ON HIM!

"Well, your car suits me all right, but how much will you allow me for cash?"

The prospect was a very successful furniture dealer, so the sales manager parried this question with another which reached his one vulnerable spot. He said:

"Did you build up your furniture business by giving discounts?"

"No," he grinned, and took the car at list price.

PARTS NECESSARY TO GIVE SERVICE

If Customer Has to Wait He Becomes Dissatisfied

"All salesmen talk service, but there are few companies, except in the very big cities, that really give it," complained a sales manager to the Road Man recently, and this exactly agrees with the Road Man's experience.

Holding a car up two weeks while parts are obtained from the factory is not service, even though the work is done gratis; but having the parts on hand so that the car can be repaired in a few hours IS service, even though a reasonable charge be made for the work.

The trouble lies in the fact that there are few dealers that are carrying sufficient parts to make any but the smallest repairs. Real service cannot be given without a sufficient number of repair parts.

GOOD PAY A GOOD INVESTMENT

That it pays to pay a man well, is a principle of the more modern business. A man puts forth the best that is in him only when he feels that he is appreciated. Hard, enthusiastic service from an employee day in and day out can often be assured by using money as an evidence of appreciation. The normal salary is merely compensation; anything above this acts as an accelerator. It is the age-old tipping principle in a different dress.

Ford has demonstrated that even the men in his organization that do porter work really earn their high wages because they are willing to work harder and with so much greater enthusiasm.

That this principle may also be applied with success by the dealer is the opinion of Albert Elton, Cadillac agent, Youngstown, O. Every one in his employ receives high pay; even the porter gets \$3 a day. Elton says it is an economy, for the work is done faster, fewer mistakes are made, there is less trouble and misunderstanding with customers, and he is making more money than he would be if salaries were less.

INGENUITY PULLS DOWN HARD SALES

To Win, Salesman Must Think for Each Emergency

Ingenuity lands many difficult prospects, as is instanced by the experience of the salesman who taught a prospect how to drive without the prospect realizing it—until it was accomplished.

One day a mother and her two grown daughters entered the salesroom and said that they wanted to look at the light six. The salesman soon saw they were not so interested in the various good qualities of the car as in whether they could operate it without the aid of a chauffeur. Their main idea was to obtain the car easiest to run; yet they would not take a demonstration.

Clever Argument

Over night the salesman got an idea and next morning he was at their residence bright and early. One of the daughters came out to the car, and he asked her to sit behind the wheel, "just to see how it feels"; then he said, "press this," and she operated the starter button and the motor began running.

Next she was told to press out that pedal. Next he told her to "press out that pedal," pointing at the clutch, and then she was asked to "pull this lever back," and the car was in low gear.

Finally she was told to let the pedal back slowly, and to her consternation the car slowly moved off. After driving a few hundred feet, and when she had become somewhat accustomed to guiding the car, she was asked to press the pedal out again. She did and the salesman shifted to high gear.

Learned and Didn't Know It

It was not long before she had learned the rudiments of driving. She was wild to buy the car by the time she had brought it to a stop in front of her home.

It took a little persuasion on her part to gain the consent of her mother and sister; they had lost all interest in other cars simply because they knew they could drive this one. Yet at the outset if the salesman had suggested teaching her how instead of merely pointing to the pedals she would probably been afraid to try.

TALK SHOP—IF NECESSARY

Every man likes to talk about his own business, and when a prospect fails to warm up his interest can often be aroused by talking shop. It is essential, therefore, for the successful salesman to have some knowledge of all the ordinary lines of business, and be generally informed on all topics of conversation, because

Here's a Good Car Identification Tag

Identification Tag. No. 128		Date In _____ Out _____ No. 128		Date In _____ Out _____ No. 128																																																																																																	
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DAY STORAGE RATES 4 Hours or less 25c Each hour thereafter 05c																																																																																																					
NIGHT STORAGE 9 p. m. to 9 a. m. Per Night \$.75 " Week 3.00 " Month—live 8.00 " Month—dead 6.00																																																																																																					
The only Garage in Rockford equipped with Automatic Sprinklers.																																																																																																					
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Devised by Jud S. Joslyn, Rockford, Ill. The rate page (left) and the center tag go to the car owner. The right hand tag stays with the car. The record is easily kept and tells what is to be done and what has been done. Also, no one gets a car unless it belongs to him

often the first step in making a sale is in obtaining the attention of the prospect through his ability as a conversationalist. Also, the best conversationalist is a good listener. If you don't know much about the prospect's "shop," lead him into telling you about it. That will interest most men more than anything you can tell them.

SPECIAL WEEKLY SALES

Customers are attracted to the store of the Motor Tire & Supply Co., Colum-

bus, O., by special sales of some article every week. One week it may be a small gasoline vulcanizer, another week a jack, and so on. As a result many customers make a practice of dropping in at least once a week to find out what is being offered.

Soap and Water

Page 10

DISPLAY HELPS FOR THE DEALER



There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. Two are illustrated herewith and these will be followed by others which have been especially designed for the purpose of assisting the dealer in bringing his merchandise to the attention of possible purchasers. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



The smaller illustration shows the X display board supplied to dealers by the Frank Mossberg Co., Attleboro, Mass. The larger shows the Attleboro display board put out by the same company. It carries a complete stock, which costs the dealer \$36; the board is, of course, free. It may be placed on any unused wall space and takes up practically no room.

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

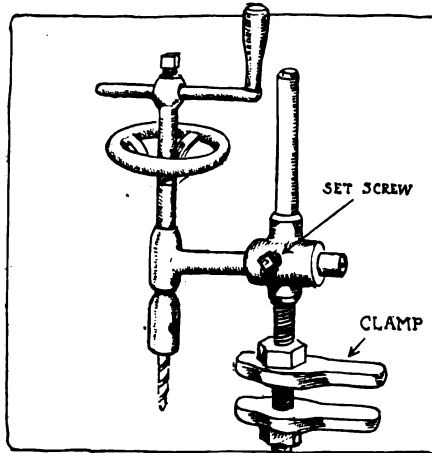
Tool for Awkward Drilling (No. 105)

For drilling holes in awkward and inaccessible places a very handy tool is a universal old man. With this device a man can crawl under a car and drill holes for storage battery brackets, for example, with the greatest ease; there is no difficulty in applying sufficient pressure because this is done by the tool itself. Holes at difficult angles and in inaccessible places may also be made with ease.

The instrument comprises a drilling device, a universal sliding joint, and a clamp. The latter consists of two flat pieces of iron which are drawn together by nuts on the base of the device. These clamps permit the old man to be fastened to almost any part of the car.

The universal sliding joint allows the drill spindle to be placed at any angle and in any position with respect to the base of the instrument. Both shafts can slide and turn at will and are held solid when the proper adjustment is obtained by tightening the set screws.

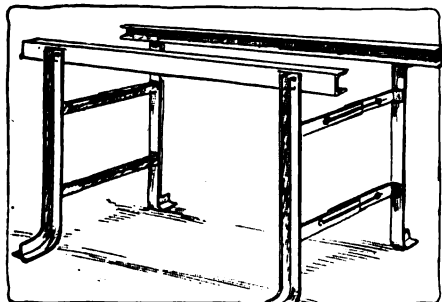
The lower end of the drill is provided



(No. 105)

Universally adjustable old man for drilling holes in places difficult to reach

means of overcoming the objections to both floor and ceiling locations. When hung from the ceiling the motor is inaccessible, and probably not too firmly mounted, while placing it on the floor exposes it to dirt and injury. The material used in the construction of the pedestal depends somewhat on the floor; with a concrete floor it is preferable to make the pedestal of concrete, and if the floor is of wood it probably would be better to employ structural steel. Long bolts, straps or rods may be used to hold the motor solidly on the foundation and at the same time steady the foundation on the floor.—W. W. Mitchell, Garford Motor Car Co., Newark, N. J.



(No. 106)

This motor stand is light and strong and is easily made from structural steel

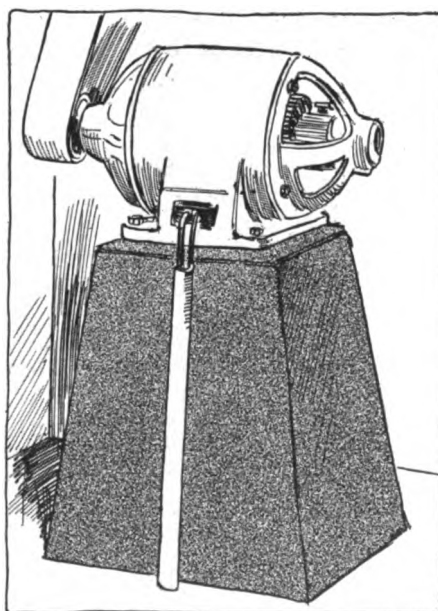
with a split clamp for fastening the drill in place. Rotation of the drill is done by the adjustable handle at the top of the spindle, and the rate of feed is determined by the hand wheel; this is slowly rotated by the left hand as the drilling handle is turned by the right.—Wm. A. Frament, Congress Auto Co., Cohoes, N. Y.

Light and Strong Motor Stand (No. 106)

A motor stand that is adjustable as to width, and that is very light yet strong, can be made out of structural steel. The top members are 4-inch channels, the legs 2 x 3-inch T members, and the cross members are made of flat stock 1/4 x 1 inch.—O. Spitzer, Prospect Park South Garage, Brooklyn, N. Y.

Mounting for the Shop Motor (No. 107)

Putting the electric motor for driving shop machinery on a pedestal is a good



(No. 107)

Electric motor for driving shop machinery mounted on simple concrete pedestal

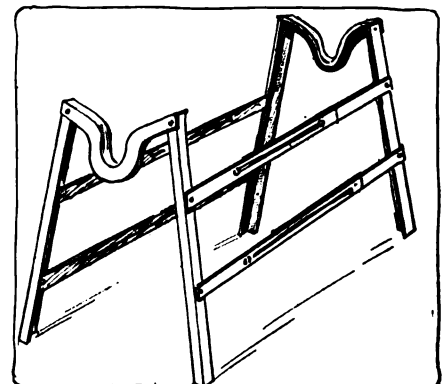
Picking Up Parts with Magnet (No. 108)

A small magnet is a time saver for picking up screws and other small parts that have dropped into the mud pan. Often the trouble of taking the pan off will be avoided.

An ordinary horseshoe magnet, purchasable at any hardware store, may be used. An excellent one can be made from an old file. It may be charged by the apparatus used for charging magneto magnets, and the steel is so hard it retains its magnetism for a long period.—V. L. Warren, Ashtabula Garage, Ashtabula, O.

Stand for Rear Axle Work (No. 109)

Work on rear axles, as well as on motors, can be expedited by providing a



(No. 109)

A stand for working on axles saves time and the men's backs and improves results

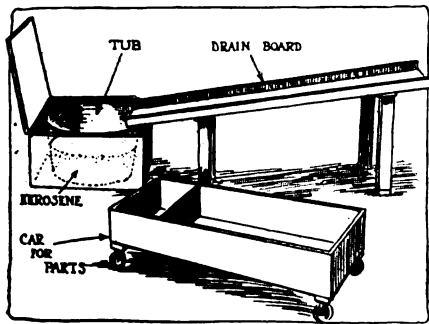
suitable stand for supporting the axle so that it is held solidly and can be reached by the mechanic without bending over.

Such a stand may be made largely of 1 1/2 x 1 1/2 angle iron. It is adjustable as to width, and the supports for the axle ends are dropped to provide for the truss rod.—O. Spitzer, Prospect Park South Garage, Brooklyn, N. Y.

Kerosene Cleaning Equipment (No. 110)

The arrangement of the drain board and tub shown in the accompanying illustration is a good one for saving kerosene after it has been used for washing parts in the garage or repairshop. While the parts are being sprayed with kerosene they are placed on the board, which is covered with zinc, and the oil, instead of being allowed to run to waste, is caught in the tub to be used over again.

The removal of the sediment every day from the tub keeps the oil clean enough



(No. 110)

The tub catches the kerosene as it runs off; the box holds parts

for the purpose and only enough need be added to make up for evaporation and other slight losses. When the tub is not in use it is kept in a wooden box with a cover, which is closed, excluding dust and providing protection against ignition. By this method time is saved, kerosene is saved and the appearance of the shop is saved, because when oil is slopped all over it makes an unsightly mess.

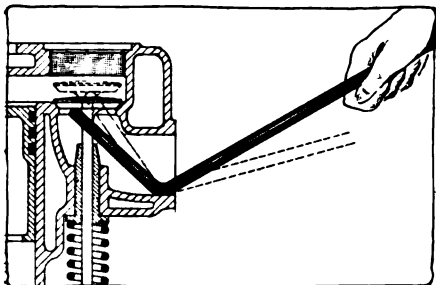
A very convenient part of the outfit is a box for moving the parts to the cleaning tub and back to the car; the box is 5 feet long, 2½ feet wide and 1 foot deep and is mounted on castors. There is a small compartment for small parts and a large compartment for heavier components.—W. W. Mitchell, superintendent, Garford Motor Truck Co., Newark, N. J.

Loosening Up a Stuck Valve

(No. 111)

Sometimes in overhauling a motor a badly stuck valve will be encountered, and it can most easily be removed by prying it off by inserting a bent tool through the intake or exhaust port as the case may be. The bend that would permit the use of the tool in one motor might not be right for another, but the appliance is so simple that it is an easy matter to have several shapes so that any motor could be attended to without delay.

The application of pressure would be somewhat more direct and the pressure applied to the long end of the lever would be more economically transmitted if the valve end was forked so as to pass on both sides of the valve stem. There would be less tendency to tilt the valve. The valve end of the tool should, in any case, be smoothly rounded so that it could slide on the valve as the latter moved up when pressure was applied.—T. L. Gracey, foreman, Argyle Garage, Brooklyn, N. Y.



(No. 111)

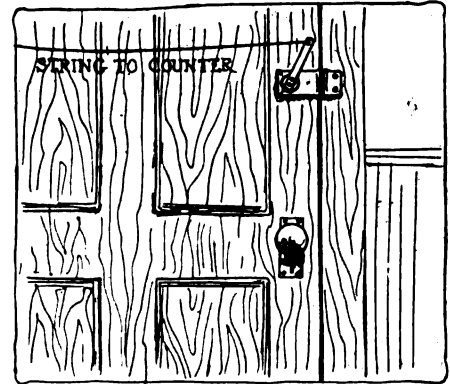
The bent tool is used as a lever to start a valve that has stuck fast

A Latch String on the Inside

(No. 112)

There are some people whose free entry to the garage or repairshop is not desirable. It is quite a problem to arrange to lock out the undesirables, and still permit the desirables to enter, but it can be solved by the method shown in the accompanying illustration. The lock of the door is made to operate by pulling a string attached to an arm on the knob.

The stock room clerk, or a boy, or someone else who is always in sight of the door, operates the lock by pulling the string when a privileged person comes in sight.—W. W. Mitchell, Garford Motor Truck Co., Newark, N. J.



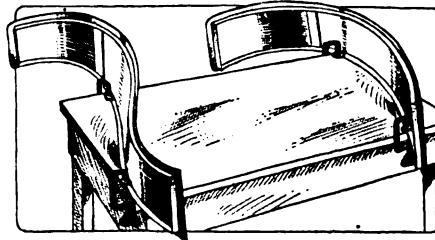
(No. 112)

The door lock is controlled by a latch string pulled by a man at the window

Grinder Attachment on Lathe

(No. 113)

When it is inadvisable to go to the expense of installing a grinder a great deal of work can be finished by means of a simple grinding attachment on the lathe. It consists of an iron plate which slides in the tool post slot and carries on its outer end a grinding wheel, as



(No. 113)

Newly painted fenders clamped to table vertically so dust will not collect

shown, which is driven by belt by a small electric motor also mounted on the plate mentioned.—Wm. H. G. Heffner, foreman, Albany Garage Co., Albany, N. Y.

Foot Pump Makes Grease Gun

(No. 114)

A cheap and efficient grease gun can be made from an old foot tire pump. It is necessary only to place a nozzle in the end to discharge the grease through. The end casting may be drilled and tapped for ½-inch pipe and if a regular grease nozzle is not available a piece of pipe with the discharge end tapered to quite a thin wall will answer the purpose.

Unless the foot pump is a very substantial one it should be used a little carefully to avoid bending the plunger rod when applying the pressure necessary to force out heavy grease.—V. L. Warren, Ashtabula Garage, Ashtabula, Ohio.

A Fender Painting Wrinkle

(No. 115)

Dust settling on a good job of painting does a great deal to spoil its appearance. Therefore when painting fenders it is well to clamp them to a table in a vertical position, as shown herewith; they will collect less of the inevitable dust than if laid flat and the surface will be better.—W. E. Howe, Troy Auto Exchange, Cohoes, N. Y.

Jack for Inserting Spring Bolts

(No. 116)

In attaching spring bolts, a screw jack between spring and frame is a time saver, as it allows the rapid alignment of the bolt holes. Such a jack consists of two members with right and left threads which are joined by means of a nut.—John Mussler, Ellis Motor Car Co., Newark, N. J.

Jacking in a Demountable Rim

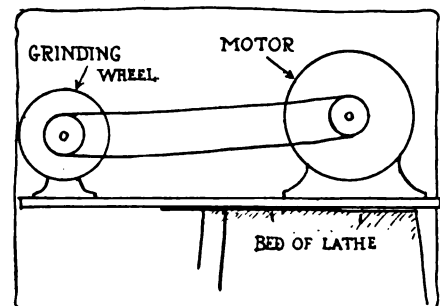
(No. 117)

A split demountable rim, the ends of which refuse to snap back into place easily when the tire has been put on, can be forced by the use of an ordinary jack. The jack is placed inside the rim, and several blocks of wood are placed under the jack, as it is too short to span the diameter. Pressure is then applied and the ends snap into place. Care should be taken to make sure that the rim is free to go into place—that is, that there is no obstruction to its movement other than normal spring and friction. Should its movement be blocked the powerful thrust of the jack might easily cause a permanent set.—Clyde Ward, foreman, Frank P. Beck, Marion, O.

Wooden Grating for Wet Floor

(No. 118)

What really amounts to a dry floor when washing a car can be obtained by placing a wooden grating on top of the cement surface of the wash rack. The grating is made of slats of wood, ¾ x 1½ inches, laid on edge and separated by spacers ½ inch wide placed at intervals of 16 inches. These spacers are 4 inches long.—Ohio Sales Co., Columbus, O.



(No. 113)

The grinding attachment, with electric motor, is mounted on the lathe



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Soap and Water

The TWELFTH instalment of Motor World's Campaign for Greater Profits.

DIRT vs. \$'s was the title of the first instalment of Motor World's Campaign for Greater Profits, and in this the dominant thought was that of cleanliness and orderliness and what the lack of them means to the garageman and car dealer. The thought has not been lost sight of.

A clean garage is assuredly a money-maker if set up alongside one that is dirty—and many of them are dirty. It is not a pleasant charge to make. It is not made in a spirit of cynicism. It is a statement that in too many instances is regrettably true.

It should be remedied.

The Garage Must Be Clean

It must be remedied before the garage trade can ever hope to attain the plane upon which it belongs.

On page 10 of this number of Motor World is a story of a garageman, who, while he is among the best in his town, needed cleaning up. The dust on his accessories and the dirt on the show case and on the floor had been so long in accumulating and had been there so long that he did not notice it. Only when it had been removed was the difference apparent. It took a Motor World representative in his shirt sleeves and on his knees nearly an hour

to get the show case clean and in proper condition for displaying the excellent line of goods included in the garageman's stock.

The garageman said he "had been going to clean the show case for quite a while." But he had not done it. Why?

Answer the "Why?"

When that why is answered by every garageman whose place needs it he will have taken the first step toward Greater Profits—Greater Profits not only in his accessory department but in every department of his business.

Did you ever see the bartender polish his glasses until they shine? Did you ever see the bootblack scrub off the floor of his little shop? Did you ever see the curb fruit vender polish his oranges and apples and put them into neat piles?

Is the garageman, the cornerstone of this great industry, in a grade below these?

Signs

THE display of merchandise of any kind, especially in windows, is not complete, says the head of a display school, unless it contains cards—price cards and descriptive cards.

They are very desirable in an accessory display. Not every garageman and dealer is an expert sign writer, but what he can do is told in a story on page 11 of this issue of Motor World. He can, with a brush and ink, make very presentable signs. They will not be perfect from an art standpoint, but they will help amazingly.

The man whose signs are illustrated on page 11 does not claim to be a sign painter, but he is a very busy accessory dealer. He knows the value of signs, paints them himself and changes them often. This is a good tip for the garageman who has not been using signs in his accessory displays.

Check up on Yourself

If you are not progressing as fast as you think you should—or would like to—check yourself up on the basis of the thought in this week's Reilly story.

The Mail Order Octopus

HOW extensively the mail order house, with its octopus-like tentacles, reaching out into every state, is cutting into the trade of the garageman and accessory dealer is told in a story on another page of this number of Motor World. It is a united voice from a big body of dealers who are feeling the effects of this competition.

They were asked how it could be combatted. Some of them said they did not know. Others make sug-

gestions, to which is called the attention of every man who sells accessories and supplies.

And there will follow stories that will compel the attention of those who are interested in this mail order situation. They will tell how dealers and garagemen have fought the mail order house successfully. Watch for these stories. If you can contribute to the series do so at once.

Make Your Money Work

STATEMENTS by dealers to Motor World in answer to questions about their business reveal the fact that of the stocks of accessories and supplies carried by them, parts of this stock are turned over as often as twice a month. Other lines turn over no oftener than twice a year.

The question of turnover is vital to a business. The dollar that is turned over in stock once a month is the equal of a twelve-dollar capital that turns over but once a year. The oftener the turnover the smaller may be the capital.

If you have not been watching this turnover of your stock it is worth while investigating it. It may be the means of saving you money. If you have stock that has become a motionless burden on the shelves it is better to clean it out at a loss and untie what money can be gotten out of it than to keep good cash tied up in a stationary commodity.

Memory vs. System

MEMORY as a method of keeping accounts is fine if the memory is about 700 per cent more efficient than any memory yet found in a human being. Opposed to this there is but one alternative—and that is a regular business system that tells the story of the business without any forgetting or tangle through inaccurate data.

The story—on page 5—of the system of checks devised by an Illinois garageman may suggest points in the business of other garagemen and dealers on which there is not now a proper check. If so, some of the same forms used by this garageman may be copied. We are sure, without any exception being taken by Mr. Netzt.

A Time to Forget

“HOW'S business?” asked one man of another who was on his vacation. The inquiry may have been purely formal, but the answer was quick and to the point.

“I don't know, don't want to know and don't expect to know—for two weeks.”

That is the way to take a vacation. A rest which is spoiled by worry over business that should be left behind is not a rest—it is a nightmare. It is a poor business that won't run two weeks without the man

who is with it the other 50 weeks of the year. And it is a poor manager who hasn't his business so systematized and arranged that it can get along a few days without him.

Some day every business has to get along without its manager, and if it can be made to do so now, with benefit to the manager, so much the better. When you “vacate,” “vacate.” Don't do a half job. It doesn't pay.

The Low-priced Knight

UNUSUAL interest attaches to the story in Motor World this week of the Willys-Overland Co.'s Knight-motored car at about \$1,000. It marks an era in the industry. When the six made its entry it was the beginning of an epoch; so with the coming of the eight and later the twelve. Close on the heels of both the latter comes the low-priced Knight. The Knight itself is not new or unusual, but the feature is that a motor which has hitherto connoted high-price is now within the reach of Mr. Average Man.

Bury the Dead Ones

WITH the new cars coming through and the new season opening for the dealer it is a time to give attention to that prospect list. Just because a man's name happened to be put on the list months ago is no sign he is a prospect today.

He may be the owner of a car bought three months ago, in which case it is rather unlikely that he wants another one now. He may never have been a legitimate prospect, and if so his name should have been rubbed out long ago. There may be other reasons why he is not a live prospect, and this is not the time to waste effort on the dead ones. Bury them in the dead file or throw them away.

New cars and live prospects go hand in hand and are in the same class.

Here's a Tip

THIS tip is taken bodily from the methods of an eastern dealer and is presented to all his fellow dealers for their use if they want it. He took on a certain agency at, say, \$1,000. He required a prospect list. He figured thus:

The men who own cars in the \$700 and \$800 classes ought by this time to be ready for a car of a little better quality and higher price. He listed all the \$700 and \$800 owners in his territory and sent out a letter that brought a veritable army of people to his salesroom—among them many good prospects.

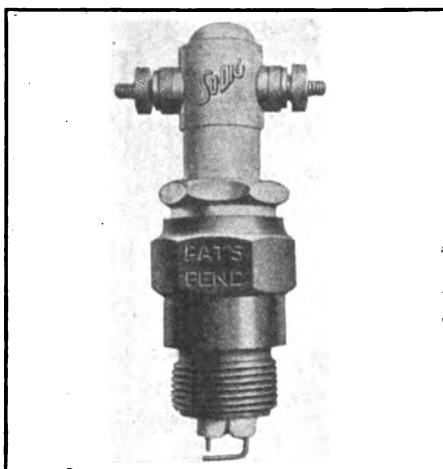
It works in several different ways. Get the man in the lower grade and pull him up into yours. Or if you think he has been spending too much on the operation of the car he has and if your car is smaller and more economical, try him out on that basis with a special letter.



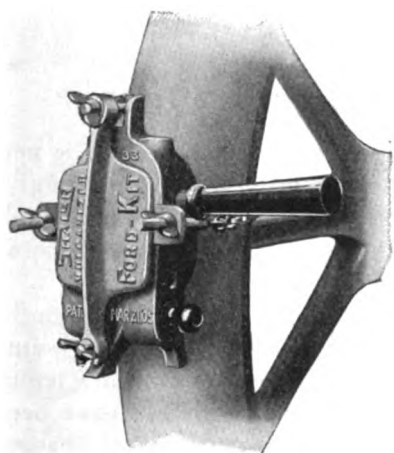
ACCESSORIES & SUPPLIES :

Superior Series Spark Plug

A double-electrode spark plug, for use in series with another plug of the ordinary type in the same cylinder, is manufactured by the Superior Motor Power Co., 30 Irving place, New York. To one of the two exterior terminals of the plug the lead from the magneto or timer is attached; from the other terminal is run a short high-tension wire to the second plug. When the current passes a spark is made at both plugs and the mixture in the cylinder is ignited in two places at the same time. The manufacturers



Su-Dig plug with two insulated electrodes; to be used in series with another plug



Shaler Ford-Kit, a vulcanizer designed especially for tires of 3- and 3 1/2-inch sizes

claim an increase in power and economy in fuel.

Price, \$1.50 each.

Healy Valve and Seat Tools

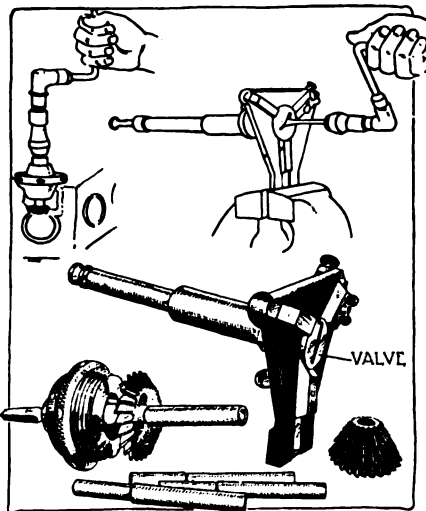
A complete and convenient set of tools for refacing valves and valve seats is put out by the Healy Tool & Appliance Co., Buffalo. The valve tool consists of a frame-plate carrying two adjustable cutters, with a guide extension to take the valve stem and hold it steady. The tool is held in the vise and the valve turned with a brace. There is an interior chuck which closes on the valve stem and holds it so that it cannot chatter while turning; an adjustable bearing takes end thrust and both are adjustable. Cutters are 45 degrees at one end and 60 degrees at the other and are set by a micrometer screw. The seating cutters, of milling-cutter type, have from 16 to 24 teeth, according to size, and are so constructed that a cutter 1/4 inch larger than the valve will enter the port; the large size permits the removal of

shoulders. Pilots are of hardened steel set in a taper; the port steady rest has a running thread on a taper and will engage any size port. Six ball bearings hold the cutter in alignment.

Price, \$35; special set for Fords, \$10; dealers, 20 per cent.

Shaler's Line of Vulcanizers Complete

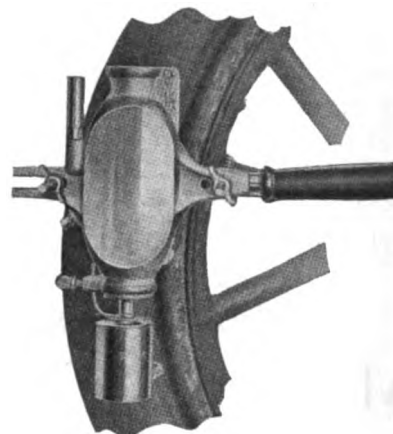
The C. A. Shaler Co., Waupun, Wis., does not by any means confine itself to the manufacture of small emergency vulcanizers, though the small models are so well and widely known that there is perhaps some excuse for such an impression. The Shaler line includes garage apparatus heated by steam, electricity and gasoline. The line is as follows:



Healy adjustable equipment for facing valves and truing valve seats of any size

The Tube-Kit is a tool-box vulcanizer for tubes only and is heated by a lamp burning either gasoline or alcohol. The vulcanizing surface is 10 square inches, and the largest tubes can be repaired without pinching the edges. There is a handle, detachable for packing, and three legs to stand on. Incidentally, the lamp is so made that if the tool upsets when burning no harm will result. The price, packed with repair material, is \$2.

The Safety Vul-Kit, tourist model, also of the tool-box type, mends both tubes and casings and is heated by a gasoline or alcohol burning lamp. There is no



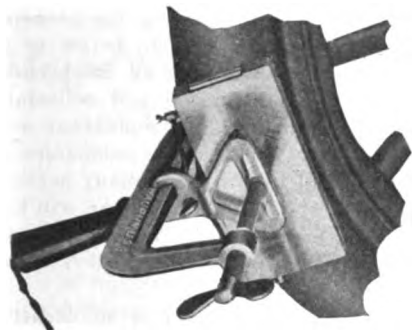
Type S 22 portable steam vulcanizer with automatic regulating thermostat

exposed flame, so the tool can be used close under a fender without scorching it. Tube repairs are made on an inlaid asbestos plate 3 1/2 inches in diameter, swiveled so that the pressure of the clamp on the tube must be uniformly distributed. Complete, with detachable handle, repair material, clamps, etc., \$3.50.

The Ford-Kit is designed especially for 3- and 3 1/2-inch tires and tubes and has the same lamp system and the same general characteristics as the Vul-Kit. A flat surface and clamp are provided for tube work. Price, complete outfit, \$2.75.

A larger outfit, which, however, is portable, is the Type S steam vulcanizer, in which the alcohol lamp flame is controlled by a thermostat, so that operation is entirely automatic once started. The vulcanizer can be used on a casing of any size and can be applied while the casing is inflated. The temperature is automatically held at the proper point as long as the lamp burns. A safety valve is an extra precaution against excessive

pressure. The vulcanizing surface is 3 x 5 inches; larger areas are repaired by resetting. A tube of any size can be vulcanized, the tube surface being inlaid



Shaler portable electrically heated vulcanizer clamped to inflated tire

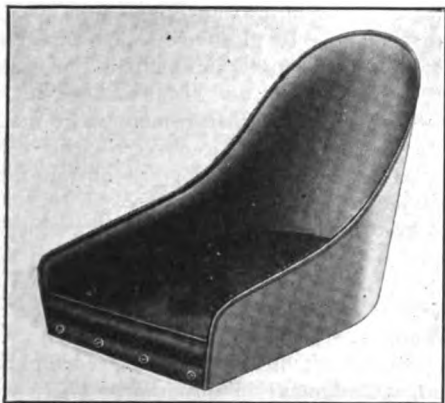
with asbestos. Packed in wood box with thermometer, repair materials, alcohol container, instructions, etc., \$12.50. Weight, 13 pounds.

The Stitch-in-time model is much the same as the type S, but has no steam system, flue or safety valve. The temperature is automatically controlled by a thermostat, however. Price, \$10. Weight, 11 pounds.

Type D portable electric vulcanizer is designed for use wherever it can be reached by a flexible cable from an electric lighting socket. A thermostat automatically regulates the temperature. Both tube and casing surfaces are $3\frac{1}{2}$ x 7 inches; one side of heater is concave for working on inflated casings. Tube surface is inlaid with asbestos. Current consumption, 70 watt-hours. Price, with complete outfit, including cable, \$12.50.

The service model garage vulcanizer is similar to the portable electric except that it has a manually operated rheostat for controlling temperature instead of the automatic device, a built-in thermometer indicating the temperature. A detachable plate is supplied for larger work than the regular plate will cover. Price, \$20.

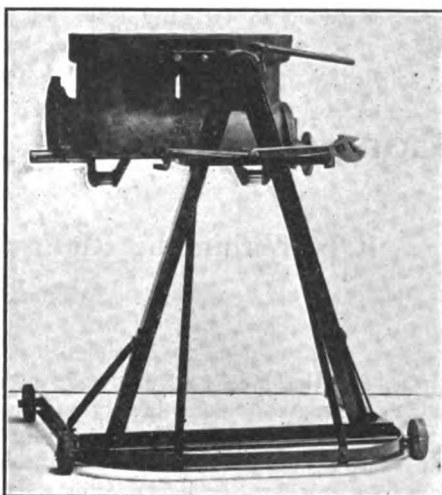
Type C is an inside electric heater for blow-out repairs and is used in conjunction with the service model, the latter



Belfast racing seats are built for cars remodeled for speeding and are light and strong

applying heat from the outside. This combination permits making all practicable blow-out repairs by the wrapped tread method. Price, with thermostat, \$20; for alternating current only. With rheostat, for alternating or direct current, \$25. The multi-tube model has a tube surface 24 x $4\frac{1}{2}$ inches for repairing a number of tubes simultaneously. Price, with thermostat, \$25; with rheostat, \$30.

The steam vulcanizers, which are for regular garage service where there is considerable work to be done, are so built that they occupy a surprisingly small space. Six tubes can be vulcanized at once, and a casing repair can be made at the same time. Steam is generated in a coiled-tube generator heated by a gas or gasoline burner, the flame of which is under automatic thermostatic control; once the burner is lighted no attention is needed to keep the temperature constant. A safety valve is fitted. Price,



A Ford motor held in the Ekern stand can be turned and held in any position

\$60 complete. Without the casing attachment, \$35.

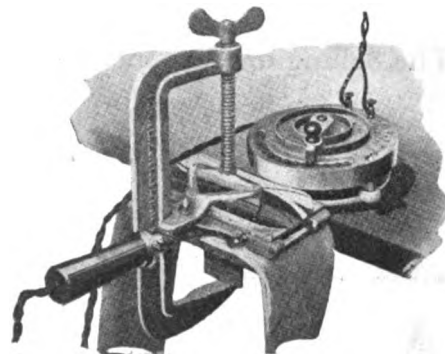
Knepper & Knight Valve Grinder

A machine designed to grind four valves simultaneously is manufactured by Knepper & Knight, Detroit. A frame, held in place over the valves by a vertical post screwed into a valve port as shown in the illustration, carries four vertical spindles, each with a screwdriver point to enter the slots in the valve heads. The spindles are adjustable as to their spacing and are reciprocated through gears meshing with a rack running the length of the frame and actuated by a connecting-rod. The rod takes its motion from a small gear meshing with a larger gear turned by a hand crank, so that the speed is increased by the gearing. The machine can be set at any desired height on the post. Special attachments are supplied for clamping the machine to various kinds of cylinders, including those with removable heads.

Price, \$25; dealers, 20 per cent.

Ekern's Stand for Ford Motors

In a shop where a good deal of work is done on Ford motors a special stand greatly facilitates matters. Such a stand



Shaler electrically heated service model for vulcanizing both tubes and casings

is manufactured in handy form by Ekern Bros., Flandreau, S. D. The motor is attached to the stand by two bolts which screw into the side where the water connections are bolted on. The clamp and the motor with it can be rotated, so that the motor can be brought into any position and held there by tightening a split clamp. Small wheels permit the stand to be moved to any part of the shop. A tray is provided to hold tools and small parts. Height, 34 inches; floor space, 32 x 30 inches; weight, 50 pounds.

Price, \$20; dealers, 30 per cent.

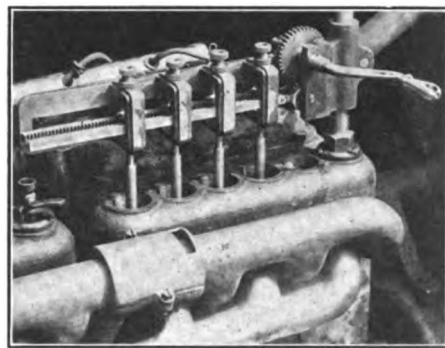
Belfast Racing Seats

The Belfast Mfg. Co., Station K, Cincinnati, O., is putting out a line of racing seats which may be made part of a racing body by fastening them to the body frame with wood screws; they are designed especially for converting cars into racers. The back is of 22 gauge metal, well ironed to the wood-framed bottom; upholstery is in red or black imitation leather, well padded. The bottom cushion is removable. The back is painted battleship gray.

Price, \$8 each; \$15 per pair.

Soap and Water

Page 10



Knepper & Knight multiple valve grinder can be adjusted for any height or spacing

Dealer's Legal Status

The Selling of Accounts—If Necessary the Dealer or Garageman May Sell Accounts But the Utmost Investigation Is Advisable Before Taking This Step

By George F. Kaiser

A GARAGE man in the middle west has just written with reference to the collection letters which have been appearing in Motor World, saying that he needs money but needs it so badly that he cannot wait to see if his letters will bring response in the form of checks. He ends by asking what he can do in a case like this.

When a dealer becomes so hard pressed for cash that he must raise it without any delay or fail, there are only a few things he can do. He can sell his business, borrow the necessary money—if his credit is good—or sell the accounts outstanding on his books.

Oftentimes the dealer will wish to remain in business, however, and will have no security to offer for a loan except his outstanding accounts, which may not be accepted as security for a loan by his local bank. In a case like this, he is distinctly up against it, unless he can sell those accounts.

It is perfectly proper and legal for a dealer to sell any accounts that he may have on his books. The difficulty in a case of this kind is usually that it is hard to find a person who will pay a lump sum in cash for them and take chances on collecting them, unless the amount offered is so small as to be unacceptable.

There are companies, however, doing business in the different states which make a specialty of loaning money on security of this kind and buying accounts for cash. Some of these companies are absolutely honest in their dealings, some are fairly so, and some cannot be trusted.

When a man is in immediate need of cash he is likely to accept, without careful investigation, almost any kind of proposition that looks good on its face. Unfortunately, it often happens that after he has signed up with a company he finds it is virtually in control of his business and that he cannot turn hand or foot without its permission.

Oftentimes a dealer finds that the company has not only taken over all his old accounts, but that he has also agreed to allow them to make all collections on his future business for a certain period, for which services a very profitable fee is charged, and that he is paying out a great deal more for collection

fees and attorney's fees on suits which the company claims it was necessary to start than he ever expected to do.

A proposition of this kind should be very carefully investigated, as the contracts are liable to be very technical and tricky and the provisions for the collection fees and attorney's fees which are inserted, while innocent on their face, may be found to virtually leave but a small share of the claims for the dealer.

Then, too, companies of this kind fre-

quently, under advice of counsel, work out elaborate schemes to get more than the legal rate of interest for themselves on what are virtually loans.

It stands to reason that if there is any other way of getting the necessary money the dealer will do better to use that way, for although all his accounts may be perfectly good and collectable, he must remember that numerous other people with whom these companies are dealing will have a great many accounts which are "N. G.," and that he will have to help make up the losses the companies sustain on accounts which are not good.

If the dealer's plight is so desperate that he has to choose between failing and entering into an agreement with a company of this kind, let him consult an attorney and have him carefully go over the contracts it is proposed that he shall sign. He will then at least have the satisfaction of knowing just what he can expect. In a great many cases of this kind, after contracts have been explained, I think the dealer will feel that the money for legal fees was well spent.

Constitutionality of Jitney Regulating Laws

It Is Within the Rights of Municipalities to Regulate the 5-Cent Bus

Q.—Can you please tell me what right a city has as to making laws governing "jitney buses"? I am running a jitney bus and I would like to know if there has been any case decided covering them.

J. L.

Seattle, Wash.

A.—Since the jitney bus first made its appearance a short time ago, it has been a matter of deep concern to the law-making bodies of the different states and communities in which it has successfully made its appearance.

The constitutionality and legislation of the form of state ordinances which attempt to regulate the use of automobiles as common carriers has finally reached the Supreme Court of the State of Washington and has been passed upon.

In the case of State vs. Howell, which is reported in 147 Pacific Reporter, page 1159, the court points out that the act which was attacked as regards its constitutionality first, recognizes a new sort of common carrier, and second, enacts a system of regulation of such common carriers by requiring them to obtain permits from the secretary of state and to furnish a surety bond in a specified amount against which an injured person may proceed to recover damages.

The Washington Supreme Court held that an act of this kind might properly be passed and would be constitutional.

There would seem to be no doubt that the various states and communities in which the jitney bus has made its appearance can properly pass measures regulating their use.

RAILROAD'S DELAY GROUNDS OF CLAIM

If the Carrier Unduly Holds Up Shipment After Notice Dealer May Sue

It has just been decided by the Supreme Court of North Dakota that when a dealer ships a motor car to a factory for an overhauling, notifying the railroad that any delay in delivery will greatly damage him, and that he will not ship it unless it will not require more than two weeks to reach the factory, he may sue the railroad and recover for the loss of the use of his motor car during the period of delay.

In this case a dealer shipped a motor car, which was unreasonably delayed 87 days. He was in the automobile livery business and the fair rental value of a motor car such as his was \$9 a day.

The court held that he accordingly suffered damage in the sum of \$702.

(Armstrong vs. Chicago, M. & St. P. R. R. Co., 152 N. W. 696.)

Garage Business Is Flourishing

Motor World Road Man Finds Healthy Conditions in Ohio—Merchandising Spirit Growing

FARMING and manufacturing are equally divided as industries in that section of northeastern Ohio visited this week. Although conditions are steadily improving few of the plants are yet running full time, but despite this the demand for motor cars has been brisk and is getting better. The demand for 1916 models is unusually keen.

About half the cars are sold to farmers and the remainder to merchants and factory men. In the steel mills in Youngstown and vicinity cars are owned not only by executives and department heads, but also by many of the workmen who draw the unusual wage of \$4 and \$5 a day. A great deal of the work in the mills is of a high grade, well paid sort. There are quite a few excellent garages in this vicinity and there also are a great number which it seems could draw greater incomes were the principals of modern merchandising more thoroughly applied. Some of the garages are far from clean and well-kept and a number of them have not yet awakened to the Greater Profits which lie in the sale of accessories and supplies to car owners. The drygoods stores, drug stores, candy stores and cigar stores in this section are wonderfully attractive and there are in them some excellent principles and thoughts for adaption by the garage and dealer trade.

Better Building Essential

While some of the garages are of a very modern type, there is a feeling among some of the garagemen that they are making a risky move if they go to the expense of putting themselves in better quarters. In most cases this fear is unfounded, for the better place generally justifies itself through a better business.

Several complaints have been made regarding the action of one large manufacturer of cars which reduced the wholesale price recently \$200 at the same time maintaining the retail price. Its dealers were thereby able to allow this much more on the traded-in cars and if they so desired could cut that much from the price of a new car. This results in an injury to the standing of the manufacturer in that it forever after weakens his demand for the list price and robs him of the good-will of competing dealers.

Conneaut—Population, 8,319. Industries—flour mills, canneries, tin plate and agriculture. A number of the garages

This is an extract from the report of the Motor World road man who is now visiting dealers and garagemen in Ohio. The towns on this itinerary are on the east side of the state near the Pennsylvania line and include Conneaut, Ashtabula, Warren, Niles, Youngstown, Alliance, Canton, Massillon, New Philadelphia, Zanesville, Newark, Columbus, Marion and Mansfield.

here generate their own electric power by means of a small engine and an old belt-connected generator. In Cody and Cowles City Garage, the natural gas which is used for fuel costs 30 cents a thousand feet, which amounts to \$5 or \$6 a month, as compared with \$25 or \$30 a month for electric current purchased outside.

Opportunity for Transient Trade

Ashtabula—Population, 18,266. Industries—Machine shop, coal and iron ore and agriculture. The Lincoln Highway passes through this town and there is an excellent opportunity for future transient business. George H. Fassett is a leader in the sale of accessories, his garage windows presenting a very attractive display to the tourist.

Warren—Population, 11,081. Industries—Coal and iron mines, stove, boiler and automatic sprinkler factories, and agriculture. As to transient trade, John Cooper, proprietor of the City Garage, states that he believes the recommendation of tourists is of greater value than road signs. He gives each departing patron a business card and requests him to tell of the treatment he has received.

Youngstown—Population, 79,066. Industries—Iron and steel furnaces, machine shops and foundries. One of the best places in town is that of the Elton Motor Car Co., Cadillac distributor. It is a simple but good-looking concrete structure with broad lawns, harmonizing with the fine residences adjacent to the building. Albert Elton, the proprietor, ascribes a large part of his business success to the fact that he pays good salaries, even the porter getting \$3 a day. Elton states that the higher wage begets interest and enthusiasm.

Alliance—Population, 15,083. Industries—Steel foundries, heavy machinery factories. A visitor to this city is impressed with the establishments of the

Alliance Motor Car Co. and the Alliance Tire Repair Co. The former is an up-to-date brick structure with a very good accessory store and an attractive showroom, both with large display windows; flower beds and grass plots make the place very inviting. The Alliance Tire Repair Co. presents some up-to-date samples of store and window display of accessory.

Good One in This Town

Canton—Population, 50,217. Industries—Soap, flour mills and small machinery. In many respects the garage of the A. H. Wilson Motor Car Co., Cadillac distributor, is the best the Road Man has seen. The exterior is very attractive and the interior has been well thought out. It is absolutely fireproof and its erection saved the proprietor \$1,200 insurance. A. H. Wilson, who began this business less than 19 years ago, employs a system which insures a fair profit on every line of work; even the washing of cars is charged for at 60 cents an hour. Another structure which attracts attention is that of Monot & Sacher, Ford dealer.

Zanesville—Population, 28,026. Industries—Brick work, potteries, coal and iron. Poor roads have held back the motor car business in this center, but improvements which are now under way will without doubt alter this condition.

Columbus—Population, 181,511. Trade in grain, wool and live stock. Iron and steel products, agricultural implements, shoes, buggies, lumber, leather, edge tools and plows.

The most impressive feature is the wide popularity of the electric; not only are they largely used by ladies in shopping but also by the business men in making their way about the city. The fact the city is level and well paved is one reason for their common use, and another is the low cost of electricity.

There are several garages exclusively for electrics, and that of Evans & Co. is especially noteworthy. One point of importance brought out in a tour of these garages is that the ideal width is either 30 or 60 feet, instead of 50 or 100 for gasoline cars. This is due to the difference in length and more will be said on this point later.

An unusual sight on North Fourth street, the city's automobile row, is the parking of demonstrating cars on the broad sidewalk, thus utilizing this space for display purposes.

The Everitt Auto Sales Co., Maxwell dealer, has been selling cars on time payments. Half the money is paid down and the rest is divided into ten monthly instalments, on which 6 per cent interest is charged. The scheme seems to be very popular.

W. J. Miller, of the old Frayer-Miller company and president of the Broad-

Oak Auto Co., Chalmers dealer, is experimenting with a vertical disk valve, water-cooled motor. It is extremely quiet and the valve mechanism is very simple.

The most luxurious showroom the Road Man has ever visited is that of Michael Abel, distributor of the Baker electric. It is more like a fine drawing room than a showroom; it has expensive rugs on the floor, draperies, delicate furniture and handsome table lamps. The woodwork is enameled white.

To the man who is interested in learning how to arrange an accessory stock neatly and attractively on shelves, a trip to Justus & Parker, accessory and supply dealer, is decidedly worth while. The stock has been so segregated and arranged that it is exceedingly neat and convenient.

Marion—Population, 18,232. Malleable iron works and smaller industries. Sheep and cattle. Marion has a fine set of garages, and yet the reason is not quite plain. At the head of the list is the new garage being built by Hoyles & Moyer, but there are several other large ones in the same class.

Mansfield—Population, 20,768. Boilers, carriages and watch cases. Grain raised. There are two good garages here; one is a very new one, built by Freeman Brown, Buick dealer; the other is the Herring garage.

Car Show at Indiana Fair

INDIANAPOLIS, IND., July 9—The Indianapolis Automobile Trade Association will stage an exposition of 1916 cars at the Indiana State Fair the week of September 6. The show held at the fair last year was a success. Since no admission was charged fair visitors to the the automobile show last year, no effort was made to count those who saw the display, but a conservative estimate places the number at 150,000.

The show will be held in a large tent covering approximately 30,000 square feet, for which a charge of 10 cents per square foot will be made to members of the association and 20 cents to those not members.

St. Louis Show October 3-10

ST. LOUIS, July 10—The next St. Louis automobile show will be held at Forest Park Highlands, October 3-10. Joseph A. Schlecht, president of the Mound City Buggy and Auto Co., has been named chairman of the show committee of the St. Louis Automobile Manufacturers and Dealers Association. The other members of the committee which will manage the show are: J. D. Perry Lewis, the Lewis Automobile Co.; H. B. Krenning, Dorris Motor Car Co.; Milton B. Strauss, Detroit Electric Co. of Missouri, and John H. Phillips, the Hudson-Phillips Motor Car Co.

Wisconsin Dealers Now Have Credit Fraud Law

Protects the Dealers Against the Man Who Gets a Car on Credit Through the Issuance of False Statements

MILWAUKEE, WIS., July 10—Wisconsin motor car dealers who sell cars on credit—and most of them do—have obtained a protection long desired. A new state law now is in effect which makes the use of false statements to obtain property on credit a penal offense. The law, which is Chapter 197, Laws of 1915, says:

"Any person who shall, directly or indirectly, designedly make or cause to be made any false signed statement in writing, in reference to his assets or liabilities, or both, or the assets and liabilities of any firm or corporation of which he may be a member, stockholder, officer or employe, whether made to a mercantile agency or otherwise, for the purpose of procuring credit, or for the purpose of procuring any extension of credit already given, provided such statement is relied upon and actual financial loss is thereby sustained by the person, firm or corporation so relying upon such statement, shall be punished by imprisonment in the county jail not more than one year or by a fine not exceeding five hundred dollars."

This act, together with the garage lien law now in effect, throws safeguards around the garage, dealer and repairshop which have been deemed necessary for years because of the absence of adequate statutes covering the acts.

Elgin to Make Van Speedometer

ELGIN, ILL., July 10—The Elgin National Watch Co., of this city, has closed negotiations with the Van Sicklen Co., Aurora, Ill., to manufacture the Van speedometer.

Jones Continues Six for 1916

WICHITA, KAN., July 10—The Jones Motor Car Co., this city, has brought out its 1916 product, which is a six-cylinder car containing such well-known units as the Rutenber motor, Stromberg carbureter, Warner steering gear, Detroit gearset, Warner vacuum feed, etc. Starting and lighting equipment is furnished by Gray & Davis, Inc. The wheelbase is 118 inches.

Allen Dealers Convene

FOSTORIA, O., July 3—Tuesday and Wednesday of last week the distributors of the Allen Motor Co., maker of the Allen, held a convention and general get-together party. The 1916 Allen car was exhibited to the dealers who attended a general meeting Tuesday afternoon, when the new car was lectured upon by the factory officers and engi-

neers. Tuesday night the guests of the factory were banqueted and Wednesday the party was taken to Bucyrus, where the factory making the motors and gearsets for the cars was visited.

Morse Discloses 1916 Car

PITTSBURGH, July 10—The Morse Cyclecar Co., of this city, has announced its 1916 product. This is a two-cylinder V-type design with a two-speed gearbox and a tandem seating arrangement for two people. The wheelbase is 105 inches and the tread 36. The tires are studded, 28 x 3, and the wheels wire. The car is driven through the front axle. The price of the Morse with standard equipment is \$350.

Auburn Markets Four and Six

AUBURN, IND., July 10—Two models, a T-head four and an L-head six, are being marketed by the Auburn Automobile Co. for 1916. Both motors have the cylinders cast in a single block with unit power plant arrangement of the clutch and gearset. Three-point suspension is also employed.

The six is a 3½ x 5 with a cone clutch, three-speed gearset, floating axle and a 126-inch wheelbase. The tires are the 34 x 4 Goodrich straight side and the body a full seven-passenger design with four full U doors with invisible hinges. The auxiliary seats in the tonneau fold into the backs of the front seats. A roomy three-passenger roadster is also provided. The price with either body is \$1,550.

The four-cylinder, 3¾ x 5, follows closely along the lines of the six, except that the motor is a T-head. The clutch is a cone, the gearset provides three speeds and the rear axle is floating. The bodies on this car are a five-passenger touring and a roomy three-passenger roadster. The price with either of the two bodies is \$985.

Collins Valve Organizes

SPRINGFIELD, MO., July 10—The Collins Valve Co. has been organized with a capital stock of \$25,000. The company soon will manufacture the Collins generating rotary gas valve. R. H. Collins, inventor of the valve, holds 190 shares of the stock, Louis C. Hensel 55 shares, and J. O. Patterson 5 shares.

Two Shows in Los Angeles

LOS ANGELES, July 10—There are to be two automobile shows in Los Angeles this season. Within a few weeks of the show at the Shrine Auditorium, September 18-25, there will be a motor car and flower show under the management of a local newspaper and practically every dealer in the city has reserved floor space. The latter show is to be held in a large store building on Broadway.

The RETAIL NEWS

The McConnellsville Garage Co. has opened for business in the Taylor-Donehoo building, McConnellsville, O. A. C. Pierce is in charge.

W. D. Brookeover has purchased the Standard Garage in New Martinsville, W. Va. The business will be continued.

Albert A. Knapp has opened the Serv-U's Garage at 408 North Ninth street, Reading, Pa. New and used cars will be handled.

Horst & Streiter, Rock Island, Ill., are about to start construction on a new one-story 53 x 150 brick garage. Ford cars are handled.

The McClelland Motor Co., Albany, Ga., has established a repair department in its garage at 212 North Washington street.

J. O. Huffman has opened the Auto Shop in Kewanee, Ill., at 221 South Main street. He is dealer for Herff-Brooks, Glide and Inter-State cars.

The Cogswell Motor Co., Kirwin, Kan., has purchased property and will commence at once the erection of a new garage to be 50 x 112 feet and one story in height. The Maxwell is handled.

The Auto Sales Co., Overland dealer in Wheeling, W. Va., has taken possession of new salesrooms at 23-27 14th street. A large accessory department is maintained.

O. J. Petty, Bowling Green, O., has purchased property at Main and Oak streets and will erect a 50 x 120-foot garage.

The Standard Auto Co., Grand Rapids, Mich., has completed its new building at 648 Bridge street and taken possession of it. R. F. Springer is proprietor.

The McCulloh Garage, operated by Monmonier & Sorrell at 1711 McCulloh street, Baltimore, has been enlarged and equipped with an electric elevator.

The B. Line Leasing Co. has been formed in Kansas City, Mo., and will lease commercial vehicles for the transportation service of companies and individuals. Phil A. Booco is head of the concern.

The Martins Ferry Garage Co. has opened for business in the West Virginia city for which it is named. It is located on Sixth street.

The Thompson Motor Co., King distributor in Atlanta, Ga., has just taken possession of a new salesroom and service station at 875 Peachtree street.

De Cozen & Reiss is the name of a newly-formed partnership which will handle Hupmobiles in Newark, N. J. Salesrooms have been established at 200 Halsey street.

The George B. Wuestefeld Co., New Haven, Conn., has taken the agency for the Rauch & Lang electric.

T. A. Clark, formerly with Pugh Bros. Co. in Providence, R. I., and later with an agency at Washington, D. C., has returned to Providence to join the sales staff of the Buick company.

Eugene L. Caton, who was identified with the Buick in Worcester, Mass., for some years, has taken over the agency for the Paige-Detroit in that city and a company has been formed with John H. and William A. Stratton as partners.

George V. Barton, who has been in the banking business at Middletown, Conn., has joined the White Motors Co., New Haven, as a salesman for the Buick.

A. W. Nelke, who handled the Overland in western Maine for some years, has given it up; he now has the agency for all Maine for the Oakland. He is making his headquarters at Lewiston.

The Oakland is no longer handled in Boston, Mass., as a factory branch. L. B. Sanders, who went there two years ago as manager, has taken the business over as an agency and he will occupy the same quarters on Massachusetts avenue.

Joseph W. Gogarn, who was identified with the Reo in New York for some years, and has been agent for the Ajax tire in New Haven, Conn., for more than a year, has taken the agency there for the Mitchell.

The Zell Motor Car Co., Baltimore, has closed its Washington branch. The Chalmers agency which it controlled has been turned over to the Union Garage. Miller Bros. have leased the Zell salesrooms at 1405 H street, North West, and will handle the Mitchell, Dort and Ford and Flint truck.

The Louisville Jitney Bus Co. has been formed in Louisville, Ky., by Felix P. Buchart, Robert J. Kinkead and Robert H. Taggart. Its capitalization is \$25,000.

C. B. Travis has opened a garage in Kansas City, Mo., at 3320-22 South Main street. Otto Bahn is associated with him. Bahn was for a number of years at the National and Marmon factories and later at the Marmon branch at Kansas City.

The Intermountain Electric Co., Salt Lake City, has purchased the stock and business of the Bertram Motor Supply Co., 342 South State street. The company is erecting a new two-story building at Fourth South street, between Main and State streets.

L. B. Sanders, former manager of the Oakland Boston branch, has formed the Oakland Motor Co. of New England. He will handle that car in New England territory.

The Motor Sales & Supply Co., Youngstown, O., has taken over the garage of the Banner Auto Sales Co. on Wilson avenue near Forest avenue. Earl Banner, former manager of the garage, has taken a position in the Motor Sales company's sales department. The company handles the Crow.

A. C. Overholt is erecting a garage in Stockdale, Pa., on Hickory street. It will cost \$20,000.

The Loucks Motor Co., Stockdale, Pa., is erecting a brick garage on Broadway.

Lostro Garage is the style of a new

business to be started in Athens, Ohio. It will be located at Port and Union streets.

T. W. Hutton will build a garage on Main street, Byesville, O.

Walter Braeger and **Gustave Pelten** have opened a garage in Rhineland, Wis., at North Brown and Phillips streets. They have the building formerly occupied by the Oneida Garage.

The Automobile Tire Co. of New York has opened a branch in New Orleans at 600 Baronne street. E. C. Hodges, of Houston, Tex., will be manager.

P. W. Holte and **Charles Currier**, Stevens Point, Wis., have formed a partnership and will operate a garage on Strongs avenue. They have leased a building which they will overhaul, installing a concrete floor and erecting an addition. Besides operating a taxicab service, they will handle the Grant.

J. H. Alway has opened the People's Garage & Auto Laundry at 973 Woodward avenue, Detroit. A quick wash and polish service will be featured.

S. H. Brixey, Tullahoma, Tenn., is erecting a garage. He is wrecking the Wigwam Theater to obtain a site.

Albert Taulsom and son, Harow, have taken over the Fox Lake Garage in Fox Lake, Wis. They formerly resided in Milwaukee.

The Northwestern Cadillac Co., Minneapolis, will erect a one-story garage and service station at 20 South Ninth street. It will be 55 x 167 feet, will have no posts, will have two entrances and will be of modern construction. The salesroom, offices, stockroom and shop will utilize the Eighth street building. The new structure will be ready for occupancy August 1.

Joseph Herbert, of the Calumet Carriage Works, Laurium, Mich., plans to open a garage. The present building will be remodeled and a concrete floor, 110 x 50 feet, installed.

The McNaul Tire Co. of St. Louis, a branch of the McNaul Auto Tire Co. of Toledo, has been organized to distribute that tire in St. Louis territory. It has opened a salesroom at 5123 Delmar boulevard. John W. Eschenbrenner is manager.

The Olds Motor Works is to open a salesroom in Grand Rapids, Mich., at 50 South Division avenue. Eugene Kirstetter will be in charge.

The Atwood Automobile Co., Toledo, O., plans to erect a \$30,000 addition to its garage on Monroe street. The structure will extend from the present building through to Grand avenue. It will be of brick, will have a frontage of 100 feet on Grand avenue, a depth of 75 feet and will be two stories high. The present Atwood garage is the largest in the city. The company handles the Overland.

S. C. Webb, for three years a partner of A. G. Iseng. Buick and Dodge dealer in Fort Worth, Tex., has withdrawn

from the partnership and taken the Dodge agency with him. His partner is E. H. Boyd, a salesman with the Webb-Ilse company since February. The new company is known as the Webb-Boyd Motor Car Co., and located at First and Throckmorton streets.

The Nashville-Buick Co., Nashville, Tenn., has taken new quarters at 1231 Broadway. William Caldwell is manager.

The J. W. Leigh Motors Co., a new company, has opened up in St. Louis at 3315 Olive street. It has the Studebaker agency.

Morton Gaugh has opened a tire store in Kansas City at 1945 Grand avenue. He will feature the Dayton airless tire.

John Borgers, Murphysboro, Ill., has sold his interest in the Borgers & Hackney Garage to Rosco Husband, who has been in partnership with Tracy Outhouse in a garage on North 11th street. Borgers retains the Cole agency and Husband the agency for the Buick.

Sanwell Cohn's Sons, Kalamazoo, Mich., will erect a garage 65 x 65 feet at 213 North Water street. It will be one story.

Charles Klingfelder, Chicago, has secured a permit to erect a garage at 1219 Albion avenue. It will cost \$2,500.

G. Callahan, Chicago, will erect a garage at 570 Indiana avenue. It will cost \$2,500.

W. H. Kiichli, Duluth, Minn., has secured a permit for a garage.

A. W. Harwood, Minneapolis, has let the contract for a four-story garage, 66 x 176 feet.

A. P. Anderson, Red Wing, Minn., has prepared plans for a garage and repairshop.

I. A. Toevs and H. Heaston, McPherson, Kan., are building a one-story, 50 x 130-foot garage. The estimated cost is \$7,000.

The Nebraska Buick Co., 240 North 13th street, Norfolk, Neb., has secured plans for a garage, the estimated cost of which is \$5,000.

Charles W. Moore, Minot, N. D., will build a two-story brick garage.

J. A. Wise and H. E. Bagby, Vinita, Okla., are receiving bids for the construction of a garage, 100 x 150 feet. It will cost \$10,000.

H. C. Beam & Son, New Haven, Ky., is preparing to open a garage and repairshop.

J. M. Jones, Chester, S. C., has purchased a site and will erect a garage.

J. F. McCuiston, Newport, Ark., is erecting a garage and repairshop.

The Toledo Motor Supply Co. has been formed in Toledo, O., by Martin R. Coney, Clarence B. Kleinhanz and I. E. Hunter. The capitalization is \$10,000.

R. H. Fitch, Fort Wayne, Ind., plans the construction of a one-story garage, 65 x 175 feet. It will cost \$10,000.

H. E. Africa, 2130 North New Jersey street, Indianapolis, has let the contract for a two-story garage.

The Shall-Crouch Auto Co., Baltimore, will expend \$20,000 on alterations and the erection of an addition to the former St. Luke's Hospital property on North avenue between Maryland avenue and Oak street. The building will be used as a garage and salesroom.

The C. T. Silver Motor Co., metropolitan distributor of the Overland, Peerless and Willys-Knight, plans to open a branch in Yonkers, N. Y. It has leased

a store at 36 South Broadway. L. A. Howell, who has been with the company for two years, will be in charge. The Silver company has other branches in Brooklyn, Newark and the Bronx.

Max Cohn, Newark, N. J., will build a one-story, brick, mill-construction garage at 251 Bergen street. It will be 25 x 100 feet, will cost \$8,000 and will accommodate 25 cars.

The Seminole Motor Co., Cole and Maxwell dealer in Jacksonville, Fla., has taken possession of a new building at Main and State streets. In addition to increased sales business an enlarged service department is planned.

The Standard Automobile Co., Grand Rapids, Mich., has completed a garage at 648-50 Bridge street, N. W. It is 60 x 70 feet, one-story, and will house 35 cars. R. F. Springer is manager.

The Harrison-Green Motor Car Co. has been organized in Fort Worth by J. H. Green, S. M. Harrison and W. M. Harrison. The capitalization is \$6,000.

The Monticello Automobile Co., Monticello, Wis., owned by Fred P. Marty and John J. Voegeli, has taken a large southern Wisconsin territory for the distribution of the Oakland car, and a new company has been formed under the name of Oakland Sales Co., which will have headquarters in Janesville, Wis. The Monticello house will continue to handle the Ford and Buick. The territory of the Oakland company consists of Green and Rock counties, Wis.; part of Dane county, and several townships in extreme northern Illinois.

The De Luxe Automobile Co. has opened a used car department at 3029 Olive street, St. Louis. Irvin Shiebe is in charge of the department.

Raymond N. Teague, for eight years associated with dealers in Milwaukee, has purchased an interest in the Milwaukee Motor Sales Co. and upon its reorganization was elected secretary, treasurer and general manager. The company is state distributor of the Lewis and was recently named agent in Milwaukee county for the Oakland. The garage and offices are at 239-241 Wisconsin street.

A new garage and repairshop is being established on the north side of Milwaukee by A. E. Shunk, who has awarded contracts for the erection of a fireproof building on Lewis avenue, between Wright and Clarke streets. The structure will be of reinforced concrete, one-story, 43 x 146 feet.

The H. & G. Motor Co., Cleveland, O., distributor of the Allen and Lozier, will move into a larger showroom. A garage and repairshop at the rear of the Union building, with 80,000 square feet of floor space, is also being completed for the same firm. The pedestrian entrance to the garage will be through the regular building entrance.

The Allen Motor Sales Co. has taken over the distribution of the Allen in Cleveland and Cuyahoga county from the Stark Automobile Co. C. E. Carpenter is manager. The latter concern will continue to look after the rest of its territory, which embraces nearly three states.

The Oakland Motor Co., Cleveland, is planning the erection of a four-story building, 50 x 200 feet, at 30th street and Euclid avenue. The entire space will be devoted to sales and service work.

The floor space of the Kansas City branch of the Nordyke & Marmon Co.

will be three times greater in new quarters now being arranged at 1608-1610 McGee street. The company has taken a five-year lease on this new two-story and basement structure at a total rental of \$18,000.

A. H. Gardner, of the National Refining Co., has opened a filling station at 205 East 16th street, Kansas City, Mo. It is one of the modern variety with wash-racks and free air, telephone booths, and five-gallon Bowser pumps and a full line of oils and greases. This station is in the heart of the motor section of the city.

C. E. Christian has sold the Hupmobile agency at Kansas City to W. C. Howard. Howard was formerly assistant sales manager at the Hupmobile factory.

Thornton Newsum, Memphis, Tenn., who operates a string of ten tire establishments in a number of large cities, has entered the Louisville field and opened a store, known as "Quick Tire Service," at Third street and Broadway. Newsum is president, Charles T. Ballard, Jr., secretary, and R. E. McCaugh, manager. Aside from the large stock of tires, the Louisville store will remain open every hour in the year and a fleet of service cars will be maintained at the instant disposal of patrons without cost.

John J. Hagel, Overland dealer, New Albany, Ind., contemplates building a new garage on Vincennes street.

McDowell & Duncan, Overland dealer in La Grange, Ky., contemplates erecting a new garage.

The Holofoener Gas & Electric Fixture Co., Baltimore, has entered the automobile accessory field; a full line of stock is being carried. The firm will continue to carry bicycle and motorcycle supplies.

The Horst & Strieter Co., Second avenue, Rockford, Ill., has let the contract for a \$7,000 garage and repairshop. This firm sells the Ford line and has outgrown its former quarters.

L. De Boice, Clinton, Ill., has taken the Moon agency in De Witt county.

H. O. Chapman, lately with the Williamson Motor Co., Rockford, Ill., has entered the service of the Packard company and will have charge of the territory about Dubuque, Ia.

The Cadillac Auto Co. of Rockford, Ill., has taken the Oakland agency also; six counties in addition to Winnebago will constitute the territory. Fitzgerald Bros., Cherry Valley, were given the first subagency, and H. R. Ralason, of Durand, the second.

C. U. Williams, Bloomington, Ill., has taken the Cole agency in McLean, Livingston, Piatt, Logan and Ford counties. He is the leading distributor of Cole cars in Illinois.

The Henry Auto Co., Henry, Ill., has taken the Cole agency and will distribute in Marshall county.

Charles Andrews, Frank C. Andrews and E. J. Jackson have organized the Andrews Motor Co., Rockford, Ill., and will handle the Lewis and Scripps-Booth. The sales department will be temporarily at the Marmon garage on West State street.

Soap and Water

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The Kelly Garage, 1460 Market street, San Francisco, has been purchased by S. Markowitz. It will hereafter be known as the Public Service Garage.

S. A. Smith has sold the Ellis Street Garage, Ellis street, San Francisco, to M. Desmond.

The Golden Gate Garage, San Francisco, has been purchased by M. Schultz.

Rohde & Normand have opened the Eureka Valley Garage in San Francisco.

F. E. Pearson has opened a garage in San Francisco at 337 Bush street.

Dolson & Anderson, proprietors of the Denman Garage, are opening another large garage at Bush & Stockton streets, San Francisco.

E. L. Hollingsworth, who has been serving as special agent for the Union Oil Co. on the Pacific Coast, has been assigned permanently to San Francisco. **A. R. Atwood**, of San Francisco, has located in Portland, Ore., to look after the Union Oil interests in the northern territory.

The Majestic Auto Co. has been organized in Aberdeen, Idaho, by Calvin Moser and A. H. Boese; they are building a new concrete garage on Main street and will handle the Ford, do repairing and sell supplies and accessories. Moser formerly owned and operated a garage in the same town for two years but outgrew his quarters. The garage will be ready about August 1.

The Badger Auto Supply Co. has been formed in Milwaukee, Wis., with a capital stock of \$5,000, to manufacture and deal in motor car supplies, parts and accessories. The incorporators are J. B. Kalle, E. Brumm and E. Kalle.

The Parkside Garage, Lorain, O., has recently been opened. It is a one-story brick structure, 50 x 100 feet. There is a showroom and accessory store.

The Fisher Garage, Vermillion, O., will shortly move into a new garage and service station. The new quarters measure about 50 x 100 feet.

The Highland Auto Supply Co. will open a wholesale and retail supply house at 813 South Third street, Louisville, Ky. Salesmen will travel five states. The company also will handle the Louisville wholesale business of the Highland Body Mfg. Co., Cincinnati, O., which formerly maintained a branch at 728 South Fourth street. The Highland Auto Supply Co. is the distributor of Rex plugs and Manzell motor-driven pumps; is state distributor for the Schebler carbureter and will feature a large line of babbitt repair parts.

Robert R. Ashwell, proprietor of the Ashwell Service Station, 341 Trumbull street, Hartford, Conn., has been appointed Westinghouse service representative and has opened a special department for this work.

The Hartford Motor Car Co., Hartford, Conn., has removed from temporary quarters in the Britton building, 121 Allyn street, to a new office building at 410 Main street. A brick service station, 200 x 55 feet, the first floor of which will be occupied by the Dodge agency, is well under way. The offices of the Walker & Barkman Co., whose officers, C. E. Walker, W. C. Walker and Ralph A. Barkman, comprise the personnel of the Hartford Motor Car Co., are located in the new building.

Robert M. Miner, late of the Universal Automobile Co., Hartford, Conn., has joined his father, S. A. Miner, Pierce-Arrow distributor in northern Connecticut,

and has been placed in charge of the truck department.

J. Cedric Sleeth, formerly road representative of the Pope Manufacturing Co., is now affiliated with the Hartford Motor Car Co., Hartford, Conn., as Dodge car salesman.

Edward Paul, Forreston, Ill., has taken the Oakland agency.

Coppel & Harsman, Havana, Ill., has moved into a new building. Franklin Harsman, formerly in business alone, took Lloyd Coppel into partnership July 1. This firm has the agency for the Ford and Overland and receives a large amount of repair work from Mason county.

George K. Selleck has been made manager of the rim department of the Strauss Service Systems, Indianapolis. Selleck has been engaged in the automobile business for the past ten years in Cleveland.

C. L. Fauber, Phoenix, Ariz., has taken the central territory in Arizona for the Saxon car and the Vim, Standard and Republic trucks. He has a garage and service station at 229 East Adams street, this city.

The Sanger Automobile Co., 564-574 Farwell avenue, operating one of the largest garages in Milwaukee, Wis., and representing the Franklin, is preparing to double the size of the garage by the addition of a second floor, 50 x 130 feet. The first floor will be remodeled and equipped with electric freight elevators and steel shutter rolling doors.

Hite D. Bowman, Louisville dealer in the Chalmers, Pierce-Arrow and Rauch & Lang, will build an addition to his garage at Fourth and Oak streets.

The Los Angeles Firestone branch has leased the store adjoining its location at 1239 South Olive street with the second floor and basement. The branch acquires 5,000 additional feet of floor space. The local branch receives at least three carloads of tires from the factory at Akron weekly and storage room is required for from 9,000 to 10,000.

The Franklin Automobile Co., Syracuse, N. Y., has recently removed its city salesroom from 500 to 823 East Genesee street. Bull & Young is the city representative and has installed a repairshop in connection with the salesroom.

The F. H. Gruetzmacher Automobile Co., Shawano, Wis., recently organized, is erecting a large garage on Main street. The building will contain a complete machine shop and welding plant. The concern is headed by F. H. Gruetzmacher, who was engaged in the garage business in Omaha for several years.

Reason & Ross, King dealer in Cincinnati, has changed its firm name to King Motor Sales Co.

The Bowman Sales Co., King dealer, has moved from McKean, Pa., to Erie, Pa., where it is located at 18-24 West 5th street.

John S. Wiese and **John Boss** have opened a tire house and vulcanizing plant at 723 South Olive street, Los Angeles, as Boss & Wiese. Wiese has been in the tire business for 20 years, until recently manager of the Los Angeles branch of the United States Tire Co. Since leaving this company he has been sales manager of the Winton branch. Boss is also a veteran tire man, having been connected with the tire trade in Denver for several years under the name of Boss Rubber Co. with branches in several of the larger cities of Colorado and at El

Paso, Tex. He sold his interests in Denver to come to Los Angeles with the intention of entering the field in this city with Wiese, whom he has known for many years.

A. H. Brown, Portland, northwest manager for the Studebaker Corp., has opened up a retail branch for the Studebaker in Spokane. The Studebaker maintained a branch in Spokane three years ago, when it was discontinued and the eastern Washington, Idaho and Montana territory, formerly under the Spokane office, was transferred to Portland. The business of this company this year in the Spokane territory shows a 30 per cent increase over last year.

Kingsley & Smith, Hartford, Conn., has erected a four-story brick garage on Elm street.

The Kenyon Tire Supply Co., Phoenix, Ariz., has moved to a new location at 307 North Central avenue.

John A. Houston, for the past seven years with the United States Rubber Co., has purchased from George Graham the business of the Broadway Fuel & Oil Co., Spokane, Wash., dealer in supplies and accessories. Before going to Spokane Houston was engaged in a similar business in Chicago. U. S., Good-year and Firestone tires will be carried.

R. Hooker, George Thelen and **L. Kittell**, who have been selling the King under the name of Hooker & Kittell, Green Bay, Wis., have changed their firm name to Thelen Garage Co.

The Southern Motors Co., 615 South Third street, Louisville, Ky., which handles the Dodge, Hudson and Packard, and the Detroit electric, has opened its electric garage department. It is equipped to handle 50 cars.

The Wilson Motor Co., Baltimore distributors of the Maxwell, will also handle the Mitchell.

R. Starkweather, a well-known garageman of southern California, has opened a repairshop at 726 West Pico street, Los Angeles, to be known as the Imperial Garage.

The Automobile Sales Co. has been organized in Tulsa, Okla.; capital stock, \$20,000. Incorporators, C. A. Sanderson, W. L. Lewis and Myrtle Sanderson, all of Tulsa.

The J. W. Leigh Motor Co., St. Louis, handling the Studebaker, is occupying new quarters. The salesrooms front at 3315 Olive street and 3316 Lindell boulevard, located in a new hotel building. The floor is of white tile. Lighting is indirect; nitrogen lamps are used. The sidewalk is paved with red English quarry tile. All the stock in the motor company is controlled by the Leigh family.

Dan B. Kelly has been appointed manager of the Louisville service station and repairshop of the Fisk Rubber Co., 941 Third street.

Roberts & Flemming has taken over the San Diego, Cal., county agency for the complete accessory, tire and oil lines carried by the Weinstock-Nichols Co., one of the largest accessory concerns on the Pacific Coast.

The Ferris Auto Repair Co. has opened an accessory store in Seattle at 1833 Broadway and will carry particularly parts for "orphan cars," including Krit, Lozier, Stoddard and Speedwell.

Dell's Garage, 132 Wethersfield avenue, Hartford, Conn., is being enlarged. A general repair business is now being conducted and the addition provides for a painting department.

Use Chicago Speedway for Testing Out Cars

**Packard First to Institute Practice—
Takes a Twelve Around the Boards
in Quest of Economy and
Operation Data**

CHICAGO, July 10—The first use of the Chicago 2-mile board speedway for testing by manufacturers took place today when the Packard Motor Car Co. tested its new twelve for economy, speed and other factors, the test being made under the supervision of the American Automobile Association, with its official timers and starters.

The first test was for economy. In a 50-mile run, with top down and windshield up, carrying five passengers, the new Packard twin six consumed 3 gallons, 95½ ounces of gasoline, averaging for the 50 miles 13.3 miles per gallon. The weight of the car with the passengers was 5,400 pounds.

Next, Ralph De Palma with one passenger made a 10-mile run, with top down and windshield up, covering the distance in 8 minutes and 15 seconds, an average of 72.7 miles per hour. Although for a much shorter distance, this betters the record set by the Packard at last year's test by more than 2 miles per hour.

The last test of the day was a 10-mile run with Ralph De Palma driving. He carried six others in the car with him, had the top and windshield up, and averaged 69.8 miles per hour. The lap time, as checked by officials on this

Lap No.	Time
1	1:43.8
2	1:44.2
3	1:43.8
4	1:43.3
5	1:43.3

Total 8:38.4

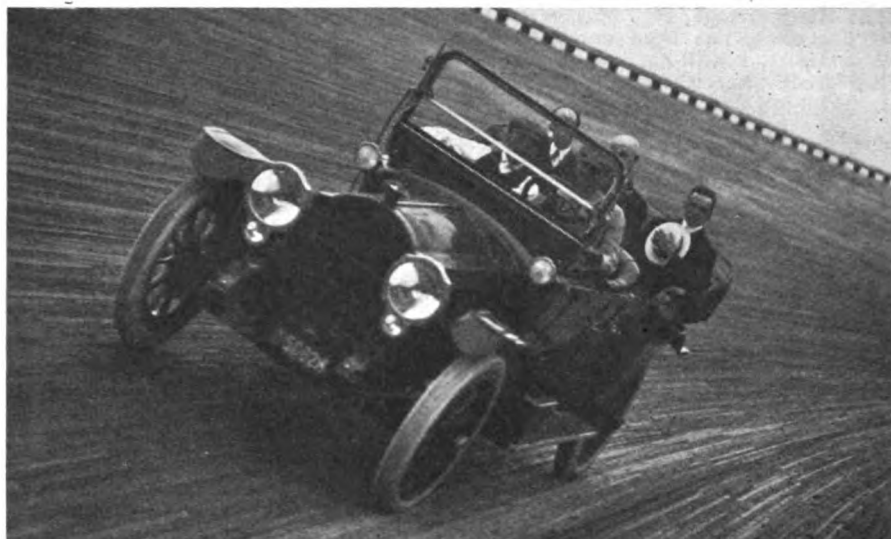
Average, 69.8 miles per hour.

Both cars were in full touring trim. Wind resistance proved quite a factor and undoubtedly the lower average with the top up as compared with the Indianapolis test last year is accounted for by the fact that in the previous trial in the Hoosier metropolis the top was down.

One of the cars was shipped from the Packard factory at Detroit yesterday and never had had any tryout. The other was the twin six that President Henry B. Joy drove to the Pacific Coast recently. Both carried regulation touring equipment, including extra tires.

Denver Association to Expand

DENVER, July 9—The Automobile Trades Association of Colorado, which heretofore has worked largely within the city of Denver, plans to extend its work



The 5-passenger Packard being sent around the turns by Engineer Vincent in the economy test

over the state. The organization, of which the secretary is W. P. Tyler, 831 Majestic building, is taking an interest in Better Business work, believing great advantages will accrue from this line of effort.

Two-county Garage Association

BROOKLYN, July 13—The Garage Owners' Association of Queens and Nassau Counties was formed last night at Disbrow Bros. Garage. The action followed the general recognition of certain abuses in the trade. It is planned to meet at an informal luncheon every Monday evening during the early stages of organization. The officers are: President, H. A. Aubinger, Jamaica; secretary, Edward Koster, Jamaica; treasurer, J. T. Callister, Queens County. Membership committee: Paul J. Stock, Queensboro Garage, Flushing; C. W. Smith, Great Neck; R. B. Sterling, Lynbrook; Fred C. Gehrke, Elmhurst; C. C. Morigl, Ogden Garage, Central Park.

De Palma Takes Stutz Cars

CHICAGO, July 13—Ralph De Palma created a stir in motor racing circles here today when he entered the 300-inch Stutz, driven by Wilcox at Indianapolis and Chicago, in the Elgin road races to be held August 20 and 21. De Palma also announced that he would drive the Stutz cars the remainder of this season in addition to the Mercedes four- and six-cylinder cars that he has had for the last year. De Palma has leased the Stutz.

Also it is believed that De Palma's new alliance may mark the retirement of Harry Stutz from racing, and there is a report that De Palma will secure the other Stutz car for races this fall. At Elgin De Palma will also have two Mercedes entries, one of which will be driven by Caleb Bragg. De Palma's entry of the Stutz is the first received for the Elgin races.

Patterson in Packard Again Makes Fast Run

**In Continuous Drive from Chicago to
New York Makes Record of 35
Hours and 43 Minutes—Motor
Did Not Stop**

NEW YORK, July 13—E. C. Patterson, a Chicago sportsman, in a Packard 5-48, arrived at the Packard branch in this city at 3:35 o'clock this afternoon, having made the run by continuous driving from Chicago in 35 hours and 43 minutes. Patterson made a similar trip a year ago in 41 hours 37 minutes. He left the El Prado in Chicago at 2:52 a. m. Monday, accompanied by J. H. Cattell and J. E. Williams, official observers of the Chicago Automobile Club, and W. Gollan.

Patterson drove all the way and encountered bad roads west of Canandaigua. Stops were made to change two rear tires. The car is a 7-passenger vehicle and carried little baggage. The distance is between 1,015 and 1,025; it has not yet been officially checked. The best previous time was 39 hours and 52 minutes made several years ago by a Franklin. Patterson, who is connected with Collier's, made the run as a sporting proposition. The motor was not stopped.

S. A. E. Standard Ballots Out

NEW YORK, July 12—Ballots for the new S. A. E. standards have now been mailed to the members and upon the results of this voting will depend the fate of many new standards, although it is expected that the schedule will go through practically without exception, owing to the care with which the standards committee has prepared the reports. The ballots are to be cast before August 1.

Columbus Garagemen and Fillers Hit by New Bill

They Will Be Forbidden in Residential Sections if Measure Becomes Law

—Existing Filling Stations Would Be Moved

COLUMBUS, O., July 12—Two drastic ordinances for the regulation of garages and gasoline filling stations have been introduced in the city council. The public is opposed to the invasion of the strictly residence districts by garages and filling stations and the ordinances are meant to stop them.

One of the ordinances provides that no garage shall be constructed, maintained or operated nearer than 187½ feet of the street on any lot where the property on either side to a distance of 500 feet is used exclusively for dwellings, without the consent of two-thirds of the property owners of the 1,000 feet so affected.

The other ordinance prevents the construction or operation of gasoline filling stations in strictly residence districts and contains about the same provisions as in the first-named ordinance. The ordinances were drafted by the Columbus Chamber of Commerce, after an investigation by a special committee. The or-

dinances for garages affect only those to be erected but the ordinance to regulate filling stations provides for the removal of those which are objectionable.

Anthony Takes Reo Distribution

LOS ANGELES, July 10—One of the most important moves of the year in California is the taking over of the California agency for the Reo by Earle C. Anthony, Inc. The Anthony organization now has the Packard and Chalmers and with the Reo and the state-wide service system which Anthony now maintains the organization becomes one of the largest motor car agencies in the country. His Reo allotment for the 1916 season is 1,500 cars.

Four-Wheel Drive Tractor Coming

ANTIGO, WIS., July 12—The Utility Steel Tractor Co., which has been developing a quadruple-drive heavy tractor for more than a year, is completing exhaustive tests of the machine. Although active manufacturing has not been undertaken, the concern plans to begin the production of the tractor before the end of July.

Couzens Goes to Pathfinder

INDIANAPOLIS, July 12—St. Clair Couzens, a Chicago advertising man, has joined the Pathfinder company as assistant director of sales and advertising.

Maxwell Withdraws from Racing; Quits August 1

Has Called in Its Cars—Claims Carlson's Accident Not the Cause—

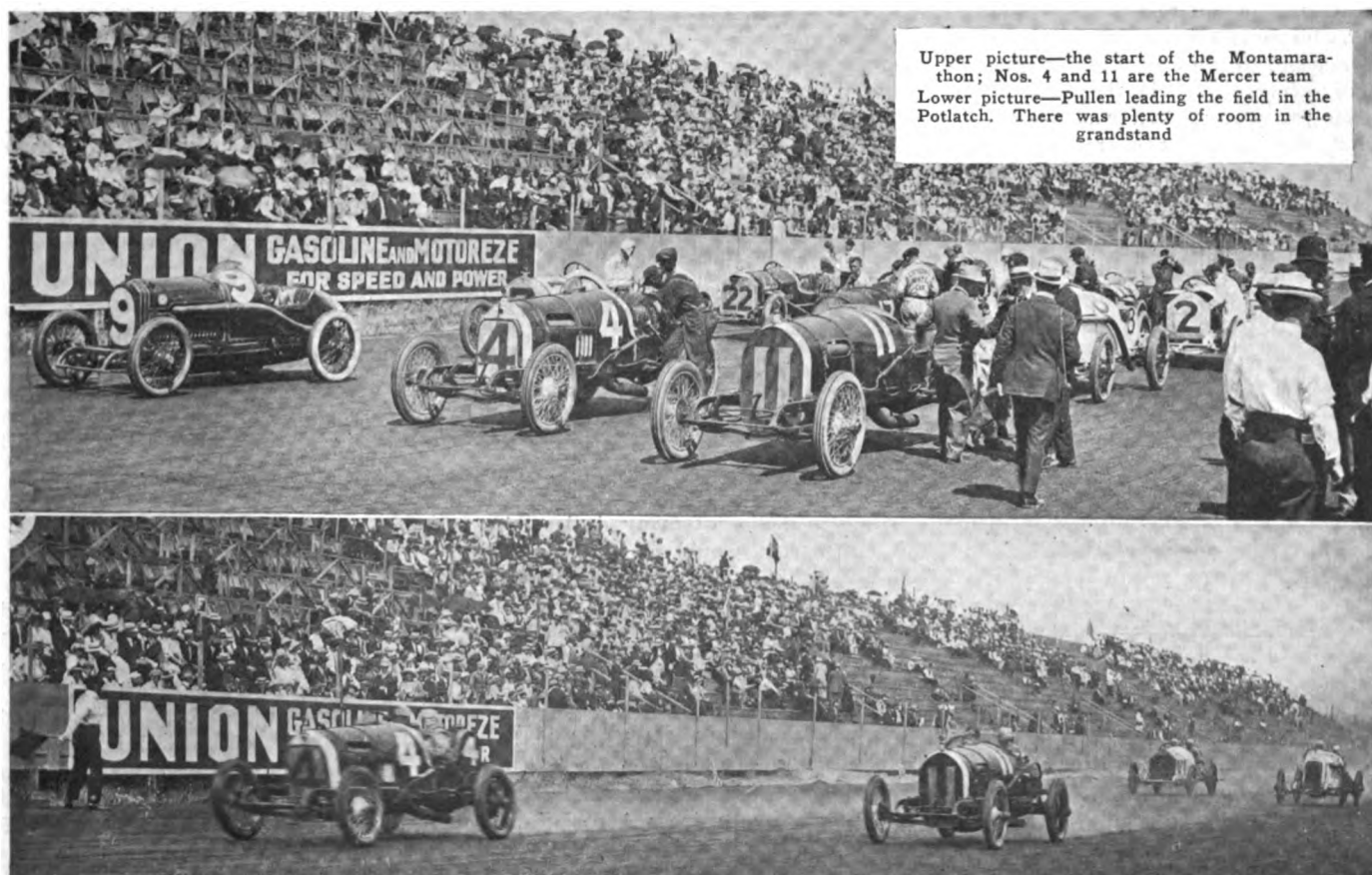
Dissatisfaction With Results in Certain Events

DETROIT, July 12—The Maxwell Motor Co., Inc., has withdrawn from speedway racing and is now winding up its racing affairs so that there will be no racing payroll after August 1. The various Maxwell racing cars have been shipped here, where they will be overhauled, but no intimation is made as to their disposal other than that they will not be raced by the Maxwell company or any of its subsidiaries. It is claimed that this withdrawal is not due to the death of Carlson and his mechanic in the recent Tacoma meet but to certain dissatisfaction in connection with certain races.

Hartford Screw Enlarging

HARTFORD, CONN., July 12—A four-story addition to the Hartford Machine Screw Co.'s plant is being erected on Capitol avenue. The old office building has been torn down to make way for the new structure, which will be of strictly modern design.

Two Scenes from the Recent Speed Event on Tacoma's Track



Upper picture—the start of the Montamara-thon; Nos. 4 and 11 are the Mercer team. Lower picture—Pullen leading the field in the Potlatch. There was plenty of room in the grandstand.

Washington Dealers Organize

Form State Association at Tacoma—Banking and Better Business

TACOMA, WASH., July 10—Motor car dealers throughout the state met at the Tacoma Commercial Club on July 3 and formally organized the Washington Automobile Chamber of Commerce, which will work for the betterment of conditions in the business.

The first officers elected were: President, R. P. Rice, Seattle; vice-president, W. W. Wing, Tacoma; secretary, Frank Fretwell, Seattle; trustees, A. C. St. John, Centralia; H. Diehl, Bellingham; M. G. Thomle, Stanwood; W. W. Baldwin, Tacoma; F. C. Shearton, Everett; F. A. Williams, Spokane; Guy Reigel, Spokane; John Moore, Walla Walla; John Kelleher, Ellensburg; F. Chandler, Yakima; A. S. Wiler, Eatonville; H. N. Rothweiler, A. S. Eldridge, W. A. Wicks, H. P. Grant, P. E. Sands, A. G. Shaefer and W. T. Patten, all of Seattle.

The meeting was called to order by Frank M. Fretwell, of Seattle, representative in the Northwest for the American Automobile Association, who was instrumental in unifying the dealers of the state.

The objects of the organization, according to the constitution, are: To educate the public regarding the automobile business and disseminate reliable information; to consider ways and means of correcting abuses in the automobile business; to promote better acquaintance, friendly feeling and cooperation among automobile men; to cooperate in good roads improvement; to increase efficiency of the members of the association by a study of the automobile business, of needs of the public, and the discussion of ideas and business methods relating thereto; to elevate the standard of the automobile business.

It was decided to hold the next meeting in Tacoma a year hence, as the members considered this the proper gathering place because of interest in the Speedway meet.

Among the interesting discussions held at the afternoon session were those concerning the banking end of the business. W. W. Wing, president of the American Automobile Co., Tacoma, and vice-president of the new organization, said the fault of the business heretofore had been the number of men who entered the trade and did not possess sufficient capital to swing their business. This drawback may be overcome, he said, by having strong business men with ample backing engage in the selling end. This, he declared, is becoming more common

all the time and old faults are being eradicated.

Frank H. Luce, vice-president of the Fidelity Trust Co., Tacoma, said that as recently as two years ago he looked with suspicion upon automobile accounts, but because of better business procedure on the part of the dealers banks looked with favor upon these accounts now.

Secretary of State L. M. Howell told the automobile distributors that he would cooperate with them in every way to secure equitable laws and would aid them in every fair way possible.

Pittsburgh Dealers at Outing

PITTSBURGH, July 8—The Pittsburgh dealers held their twice-postponed outing today at Keystone Park. They were to have held it last week, but two rainy days caused two postponements. About 400 attended.

Boxing was a feature of the day's events, and while there was supposed to be a ball game the statistics are rather obscured. The work of the committee, consisting of Earl Kiser, Harry Taylor

and William Rae, gave satisfaction with the exception of the coffee, which some of the dealers insist was made at the time the plans were made for the first of the postponed outings.

\$500,000 Speedway for New Orleans

NEW ORLEANS, July 9—An automobile speedway and equipment to cost about \$500,000 will be constructed in time for a long distance race in February, 1916, the Saturday before Mardi Gras.

H. C. Moore and S. H. Lindsay, of Chicago, are representing the promoters. They have obtained an option on an extensive tract of land in the outskirts of the city.

They're Going to Bake a Sheep!

HARTFORD, CONN., July 10—The first annual sheep bake of the Hartford Automobile Dealers Association is to be held at Lake Compounce Wednesday afternoon of next week. The trip to the lake will be made in automobiles. Arrangements for the event have been left to Ralph D. Britton, of the Hartford Garage Co. This will be the first outdoor affair of the season, and interest indicates a large attendance.

Rockford Dealers Plan Used Car Mart

Would Rid Selves of Whole Used Car Burden

ROCKFORD, ILL., July 12—The Rockford Motor Car Dealers Association has under advisement the establishment of an exchange or central market to be devoted exclusively to used cars. All customers for used motor cars would be directed to this station to select from the available stock without calling upon every dealer.

A number of buildings available for the purpose are under consideration and a choice may be made later should it finally be decided to adopt this idea. It is understood that each dealer will forward all of his used cars to this market. One salesman will be in charge who will serve all impartially and the buyer will be better able to make a selection in accordance with his needs.

It is the belief of many dealers that such a market would be very popular and also stimulate the movement of the used cars. Space now taken up in the various garages by the used cars could be devoted to new cars.

Grand Rapids Plans Credit System

GRAND RAPIDS, MICH., July 12—A protective credit system for the use of its members is being worked out by the Automobile Business Association of Grand Rapids. In this car owners will be classed as "slow," "slow but good,"

"advise cash" and "good." The list will include about 5,000 names and will be mailed to every member. The organization has a membership in the Commercial Credit Co., which gives added facilities for investigation. An effort is being made to raise the standard of business in the trade and higher storage and repair rates are being advocated.

A field day for members of the association, their employes and their families is planned for the near future.

Duesenberg Enters Twin City

MINNEAPOLIS, July 10—Fred Duesenberg, St. Paul, entered the first three cars for the 500-mile motor derby on the Twin City motor speedway, September 4. Two of the entries are new sixteen-valve motors of 299 cubic inches displacement. The two drivers named are Eddie O'Donnell and Peter Henderson. Billy Chandler will probably be third.

Thomas Making \$4,000 Six

BUFFALO, July 9—Under the model name of series MF, the E. R. Thomas Motor Car Co. is putting out a six-cylinder car selling for \$4,000. The motor has its cylinders cast in pairs and is $4\frac{1}{4} \times 5\frac{1}{2}$, rated at 43.3 horsepower S. A. E. Other specifications include a three-speed gearset, floating rear axle with spiral type bevel gears, 37 x 5 tires, 12-volt starting, five wire wheels and full accessory equipment.

Cash Payment Plan Is Successful in Kansas

Hiawatha Dealers Have Little Difficulty Getting Customers to Pay C. O. D.—Possible Because Tradesmen Stand Together

HIAWATHA, KAN., July 10—The recent cash payment agreement entered into by the garagemen and repairmen of Hiawatha has been working out in a satisfactory manner since its institution June 1. The garagemen put the subject squarely up to the automobile owners; they reported that garagemen and repairmen have to buy most of the repairs on the C. O. D. plan and no discount is allowed.

The garagemen have to meet their bills every 30 days; if they don't have the money to settle their bills, they have to get it or else they are denied further credit. The garagemen are showing and explaining that if every purchaser pays his bills no purchaser will have to pay more than his own bill—that is, there will be no charge on each purchase to cover the losses from the man who does not pay his bills. They are showing that if this system is adopted in Hiawatha in respect to garage and repair work and supplies the trade will be able to carry more and better supplies and give better service and produce a more satisfactory condition all around.

The meeting of the repairmen was presided over by E. B. Edgerton. The agreement in respect to the payment of garage and repair bills was as follows:

"We will require that each and every customer pay cash or settle his account the first of the month following date labor was done, storage given, the purchase of repairs, supplies, or accessories made.

"That if said customers fail to meet these requirements after having had ten days notification of the amount of his bill, said customer is to be refused further credit on any and all sales, at the places of business conducted by the signers of this agreement.

"That we will notify each other, and each and all of us will refuse credit on any and all sales to such customers until their accounts have been settled.

"It is further agreed that all accounts now on the books of the undersigned garage and repairmen of Hiawatha will be considered to meet the requirements of this agreement after the agreed time of 30 days from date hereof, and that the same rules as govern new accounts shall govern in the case of accounts now on our books."

The agreement was signed by the following firms: F. M. Emerson, Beckwith & Ormiston, Wolfley Auto Co., S. F.

Myers, Anderson & Matson, Sterns Auto Co., Isaacson & Wolfley, W. F. Cash, Rhoads Auto Co., N. E. Kansas Motor Co., George Dodson, and E. B. Edgerton.

Boosts Factory's Tire Guarantee

HARTFORD, CONN., July 12—In an effort to increase tire sales, dealers have added a thousand miles to the factory guarantees and also announce free repairs. The Universal Auto Co., 338 Pearl street, has started the practice by raising the Goodyear guarantee on tires purchased of it to 4,500 miles. It also makes free repairs on Goodyear shoes. The City Tire Co., 20 Ford street, has made a like offer. The United Cycle Co., 1108 Main street, is advertising free repairs on Racine tires.

Studebaker Man to South America

NEW YORK, July 9—To assist in developing the business of the Studebaker Corp. in South America, D. B. Richardson sailed from this city last week for Buenos Ayres.

PAIGE'S FAIRFIELD 6-48 TO CONTINUED

Price Has Been Reduced to \$1,295 from \$1,395—Production Increased

DETROIT, MICH., July 8—The Paige-Detroit Motor Car Co. will continue for 1916 the Fairfield Six-48 which was placed on the market in January, 1915. The price of this seven-passenger car, the larger of the two Paige sixes, has been reduced to \$1,295, or \$100 less than the 1915 selling price.

The new price is said to have been made possible by increase in production.

Some of the principal features in the Fairfield Six-48 are 124-inch wheelbase, Continental L-head block motor, 3½ x 5¼, Bosch magneto, Gray & Davis starting and lighting, cantilever springs and 34 x 4 tires.

Spokane Dealers Hold Election

SPOKANE, WASH., July 10—The Inland Automobile Association has elected the following officers: President, T. S. Lane; vice-presidents, George M. Colburn, George K. Marsh; secretary, Frank W. Guilbert; treasurer, H. Witherspoon.

Pittsburgh E. V. A. Elects

Pittsburgh, July 9—The Pittsburgh section of the Electric Vehicle Association of America has elected the following officers: Chairman, W. A. Donkin; vice-chairman, T. H. Schoepf; treasurer, L. C. Myers.

Bear State Garagemen Ask Charter in A. G. A.

Also Propose to Operate as Northern and Southern California Divisions of State Body—Take Up Better Business Work

SAN FRANCISCO, July 9—The Garage Owners' Protective Association of San Francisco has applied for a charter in the Associated Garages of America. At a recent meeting the sentiment was that the state could work best in two divisions, a northern and a southern.

For the promotion of Better Business, the organization is considering offering prizes during a stated period for the garage which makes the cleanest appearance and another to the garage making the greatest improvement in this line. The question of accessory merchandising has been taken up along the lines suggested in Motor World's campaign for Greater Profits.

Steps are to be taken to strengthen the organization, after which another effort will be made to pass the lien law which Governor Johnson pocket-vetoed after it had passed both houses.

Among the results accomplished by the association is the standardizing of the retail price of gasoline, which was brought about largely by Chairman Crowley of the gasoline committee.

Remy to Stay in Anderson

ANDERSON, IND., July 12—The Remy Electric Co. will let contracts for two additional buildings that will provide 15,000 more feet of floor. The manufacturing departments of the Remy company will remain in Anderson. Recently it was decided to establish an experimental department plant at Detroit and experimental work will start there soon. It has been definitely decided to do no manufacturing at Detroit. The plant at Anderson at this time is employing 1,300 persons and with the additional capacity will employ 150 more.

"Philly" Dealers on C. of C. Board

PHILADELPHIA, July 10—Three prominent members of the Philadelphia Automobile Trade Association, A. E. Maltby, Winton branch manager; W. J. Foss, Foss-Hughes Co., and S. DeB. Keim, Locomobile branch manager, have been chosen to represent the automobile group in the Members' Council of the Chamber of Commerce. They were appointed at a meeting of the various groups of merchants and manufacturers represented in the Chamber of Commerce membership at a meeting held last week.

All three have had long experience in the automobile trade in this city.

Soap and Water

Page 10

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

E. C. McKinney, well known to the accessory trade throughout the southern states and formerly with the Splittorf Electrical Co., has joined the sales force of the Champion Spark Plug Co., Toledo, and will represent it in Texas, Louisiana, Arkansas and New Mexico.

F. Tracy Ross has been appointed publicity manager of the Westcott Motor Car Co., Richmond, Ind. He formerly was connected with the International Advertising Bureau, Rochester, N. Y.

J. C. Turk, recently with the International Harvester Co. in Philadelphia and New York and formerly in charge of sales for the International Pump Co. in South America and Cuba, has accepted a position as special representative in the eastern territory, with headquarters in Milwaukee, for the Four Wheel Drive Auto Co., Clintonville, Wis.

H. C. Gooding, recently in charge of the New York branch of the Corliss Carbon Co. and formerly manager of the Flanders Electric Vehicle Co., Canada, has become identified with the Four Wheel Drive Auto Co., Clintonville, Wis., as special representative in the middle west, with headquarters in Chicago.

F. H. Burdette, recently with the Standard Motor Sales Co. of Pittsburgh, and formerly district manager of the Nyberg company on the Pacific Coast, has joined the sales force of the Four Wheel Drive Auto Co., Clintonville, Wis. Burdette will eventually devote his time to the Pacific Coast, with headquarters in San Francisco.

R. D. Gilbert, for the past two years connected with the Firestone company in Memphis, Tenn., has been made office manager of the Firestone branch in Omaha. He is succeeded in Memphis by P. D. Mingledorff, formerly Firestone representative in southern Mississippi.

J. E. Bright has been made manager of the Indianapolis branch of the Empire Tire & Rubber Co. Joseph Frisbie, former branch manager, becomes a traveling representative.

Charles E. Collard has been made supervisor of agencies for the New York branch of the Chase Motor Truck Co. He was formerly manager of the International Motor Co.'s Boston branch.

J. E. Levi, known to hundreds in the industry as "Murphy" Levi, has been made Southern representative for the King with headquarters in Atlanta. He



D. M. BEAL
Moline, Omaha

District Representatives

XV

This is No. 15 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

D. M. Beal is manager of the Omaha, Neb., branch of the Moline Automobile Co., Inc., East Moline, Ill. All his experience in the motor car industry has been gained with the Moline company. He began in the Production Department in 1907; here he remained for two years, entering the Sales Department in 1909. He was appointed to his present position as Omaha branch manager in 1912. The territory controlled by his office includes the state of Nebraska and the two western tiers of counties in Iowa.

had been connected for some time with the Premier Motor Mfg. Co.

I. B. Meers, formerly of the Empire Motor Car Co., Indianapolis, has rejoined the King Motor Car Co. He will be stationed at the Detroit office and will act as assistant sales manager.

Guy W. Vaughan, for the past two years chief of the experimental department of the F. B. Stearns Co., Cleveland, has been made a special sales representative. He has been a racing driver and

Motor Car Co., Indianapolis, and Morford with the Regal company in Detroit. They will work in cooperation with Herff-Brooks dealers.

A. Gilson has been made assistant to Service Sales Manager E. W. Hawley of the Puritan Machine Co., Detroit.

W. R. Mason has been made manager of Indiana sales for the Garford Motor Truck Co., Lima, O., which has opened new headquarters in the Indiana capital.

C. Y. Kenworthy has been made eastern district manager of the Baker-R. & L. Co., with headquarters in New York. He was formerly manager of the Rauch & Lang branch in New York.

F. E. McCall



Recently named secretary of the Associated Garages of America. He is secretary-treasurer of the Chicago Section of the Electric Vehicle Association of America and is connected with the Commonwealth Edison Co., Chicago

has been associated with the Stearns company for nine years, serving part of this time with Eastern distributors.

T. A. Boyle, assistant advertising manager of the F. B. Stearns Co., Cleveland, has been made manager of advertising and service. He has been with the Stearns organization eight years.

J. G. Carr and **Paul Morford** have been made district managers by the Herff-Brooks Corp., Indianapolis. Carr has been for some time with the National

Simplex Takes Over Crane Co.

NEW YORK, July 10—The Simplex Automobile Co., of New Brunswick, N. J., has bought out the entire plant, assets and good-will of the Crane Motor Car Co., Bayonne, N. J., according to reports given out today. Henry M. Crane, former president of the Crane Motor Car Co., is now second vice-president of the Simplex company, and is taking direct charge of engineering. R. B. Wasson is factory manager.

The Simplex company will continue the models made for 1915, but will build in addition a new model which is practically identical with the Crane model 4. This will be known as the Crane model Simplex. The price has not been fixed. The wheelbase will be 143½ inches. The tires will be 36 x 4½ forward and 37 x 5 rear. The motor is a six, 4¾ x 6¼, in two blocks. Steering is left with center control.

Jackson to Have Two Eights and a Four

JACKSON, MICH., July 10—While full specifications have not as yet been decided upon, the Jackson Automobile Co., of this city, is bringing out two eight-cylinder models which will soon be passing through the plant in active production. The four will be continued.

Two 4's and One 8 in Regal for New Season

One Four at \$650, Other at \$985—Eight to Sell for \$1,200—Bodies of Eight and Larger Four Practically the Same

DETROIT, July 12—Two fours, one at \$650 and the other at \$985, and an eight at \$1,200 comprise the 1916 line of the Regal Motor Car Co. The larger four is practically identical with the 1915 chassis, though there has been a change in electrical equipment, the Dyneto single-unit starting-lighting system now being used; Atwater Kent ignition is retained. The Dyneto is used on the small four and the eight also. The big four motor has cylinders $3\frac{3}{4}$ x 5 and is a Regal product; the small four motor is a Port Huron, $3\frac{3}{4}$ x $3\frac{3}{4}$. The wheelbases are 106 and 112 inches, respectively.

The eight has a 3 x $4\frac{1}{2}$ Port Huron motor. All have detachable heads and the usual valve gear. The eight has 90-degree cylinder blocks with all the valves actuated by a single camshaft; lubricating oil is circulated by two pumps, one pump for each of the cylinder blocks.

The small four and the eight have rear axle gearsets and propeller shafts enclosed in torque tubes; an unusual feature of such a design is the use of two universals. The small four has a unit power plant.

The bodies on the eight and the larger four are practically identical, carrying five passengers, and an attractive feature is the low hanging appearance. The

body of the smaller four is built along much the same lines. The small four has tires 30 x $3\frac{1}{2}$ and the large four and the eight have 33 x 4 tires.

To Build Greyhound at \$600

KALAMAZOO, MICH., July 10—Part of the plant of the old Michigan Buggy Co. has been purchased by representatives of the States Motor Car Co., Toledo, O. The consideration is stated to be \$60,000. The States company will manufacture a four-cylinder roadster and touring car, to be known as the Greyhound, and which is to be listed, it is stated, at \$600. Those interested in the Toledo concern are W. D. Smith, Toledo; Dr. F. C. Bonine, Niles, O., and James H. Johnson, South Haven, Mich. It is claimed that pending the time required to put the local plant into operation a Chicago manufacturing concern will turn out the first lot of the new Greyhound car.

Sternberg Is Now Sterling

MILWAUKEE, WIS., July 12—The Sternberg Motor Truck Co., originally incorporated as the Sternberg Mfg. Co., has again changed its corporate title, the new style being Sterling Motor Truck Co. The change is made to conform to the name "Sterling," which has been adopted as the trademark on its motor trucks.

Syracuse Outing July 22

SYRACUSE, N. Y., July 12—July 22 has been selected for the outing of the Syracuse Automobile Dealers' Association. A parade of antiquated cars will be held to show the advance made in car manufacturing, after which the dealers will hold the outing at Constantia on Oneida Lake.

Abbott Reveals Details of Eight for 1916 Year

Body Smacks of the Foreign, With Tilted Windshield—Sells at \$1,950—Herschell-Spillman Motor Rated at 33.8

DETROIT, July 10—The 1916 Abbott-Detroit 8-80, an eight-cylinder, seven-passenger design manufactured by the Consolidated Car Co., of this city, has been announced. The motor is the Herschell-Spillman unit power plant, $3\frac{3}{4}$ x 5, with the cylinders in blocks and using the single camshaft scheme with 16 integral cams. The cylinder blocks on this motor are staggered and instead of the forked connecting-rod, a side-by-side arrangement is employed. The crankshaft is carried on three main bearings. The S. A. E. rating is 33.8 horsepower.

Other specifications include a Stewart vacuum feed, Duplex carbureter, Auto-Lite electric system with Remy battery ignition, disk clutch, worm and wheel steering, left drive and center control. The springs are underslung, semi-elliptic front and three-quarter elliptic rear with the perches swiveled at the axle. The final drive is through spiral type bevel gears and floating rear axle mounted on Timken bearings at differential and annular bearings at the wheels. Special attention has been given to the body, which is of somewhat foreign appearance, a suggestion that is enhanced by the sloping windshield. A new one-man top is included in the equipment; tires are 35 x $4\frac{1}{2}$, non-skid in rear. The wheelbase is 121 inches and the standard color Brewster green. The price is \$1,950.

Recent Dealer Visitors at Motor Car Factories

CHALMERS MOTOR CO.

W. P. Parkhouse, W. P. Parkhouse Auto Co., New Orleans, La.
B. N. Anthony, Arkansas Motor Co., Texarkana, Ark.
J. P. Beck, Saginaw, Mich.
B. B. Hyde, Port Huron, Mich.
L. W. Warsham, Houston, Tex.
M. Gilliland, Gilliland & Garn, Van Wert, O.
Mr. Malerich, Garvey & Malerich, Oil City, Pa.
Mr. Drummond, J. W. Drummond, Chillicothe, O.
John Vlasblom, Grand Rapids, Mich.
A. M. Platt, Platt, Fawcett Motor Co., Denver
A. E. Stitt, Stitt Motor Co., Hastings, Neb.
Alexander Primm, Park Automobile Co., St. Louis
George Paddock, Paddock-Zusi Motor Car Co., Newark, N. J.
L. B. Zusi, Paddock-Zusi Motor Car Co., Newark, N. J.
J. H. Greenwald, J. H. Greenwald, Cleveland
Andrew Auble, Akron Auto Car Co., Akron, O.
W. R. Miller, Broad-Oak Auto Co., Columbus, O.
R. M. Weaver, Broad-Oak Auto Co., Columbus, O.
F. R. Bryant, Bryant Mot. Car Co., Waterloo, Ia.
L. E. Reed, Charles City, Ia.
K. A. Lord, Mandery Motor Car Co., Rochester, N. Y.
C. E. Hamilton, Seneca Motor Car Co., Rochester, N. Y.
E. I. Lewis, Lewis Garage, Bucyrus, O.
Mr. Williamson, Tecumseh Garage, Tecumseh, Mich.
C. G. Hanna, Syracuse-Chalmers Co., Syracuse, N. Y.
J. N. Lauterbur, Lauterbur Machinery Co., Sidney, O.

FRANKLIN AUTOMOBILE CO.

F. B. Williams, Worcester, Mass.
S. C. Crane, Franklin lecturer
Alphonso Walrath, Ft. Plain, N. Y.
A. M. Jones, Norwich, N. Y.
Gilbert B. Perkins, Brooklyn, N. Y.
A. G. Perretz, Brooklyn, N. Y.

PACKARD MOTOR CAR CO.

Bert Williams, MacFarland A. Co., Denver, Col.
C. A. Foster, Packard Cleveland Motor Co., Cleveland, O.
W. J. Parrish, Packard Missouri Motor Co., St. Louis, Mo.
G. Y. Parrish, Packard Missouri Motor Co., St. Louis, Mo.
A. L. Alexander, Central Auto & Supply Co., Waterloo, Ia.
William Love, Toledo, O.

PAIGE-DETROIT MOTOR CAR CO.

O. W. Chandler, Chandler Motor Co., Hannibal, Mo.
H. J. Thurman, Greensboro, N. C.
C. J. Clapp, Paige-Toledo Co., Toledo, O.
E. G. Bates, Dayton, O.
M. Haily, Haily & Gavin, Olean, N. Y.
Smith Bros., The Ford Garage, Norwalk, O.
Ray Hull, Hull & Shong, Middleton, Mich.
C. G. Schieffer, Fort Wayne, Ind.
A. S. Hill, Port Huron, Mich.
R. W. Herr, Jr., Louisville, Ky.
Geo. H. Baldner, Central Garage, Xenia, O.
S. D. Bolton, Bolton Auto Co., Saginaw, Mich.
Geo. Dunlap, Cadillac, Mich.
Frank M. Leary, Sterling Motor Car Co., Indianapolis, Ind.

W. G. Flumerfelt, Monroe, Mich.
S. E. Dilbone, Sidney, O.
H. H. Karstens, Zeeland, Mich.
John Scurfield, Monongahela, Pa.
Smith Bros., Norwalk, O.
John J. McLaughlin, Columbus, O.
John Higgins, Vassar, Mich.
F. D. Shaver, Paige Sales Co., Bay City, Mich.
O. G. Lentz, Paige Sales Co., Bay City, Mich.
Frank C. King, Auto Distrib. Co., Indianapolis
C. G. Clapp, Toledo, O.
George C. Endus, Rogers City, Mich.
C. E. Hamilton, Seneca Motor Car Co., Rochester, N. Y.
George Bird, Bird-Sykes Co., Chicago
Thomas M. Orvell, Kalamazoo, Mich.

PEERLESS MOTOR CAR CO.

H. O. Harrison, H. O. Harrison, Co., San Francisco
W. O. Rowley, Siegel-Zeckendorf Co., Detroit
Carl Loud, Siegel-Zeckendorf Co., Detroit

STUDEBAKER CORP.

Henry Shafer, Dunkirk, N. Y.
W. P. Williamson, Youngstown Carriage Co., Youngstown, O.
G. A. Davis, Hoosier Auto. Co., Winchester, Ind.
F. W. McNeely, Evansville, Ind.
Thomas W. Hanna, Fairfield, Ia.
W. D. Moon, Milton, Ia.
G. A. Miller, Canton, O.
J. G. Polen, New Philadelphia, Pa.
W. A. Beechy, Shippers Creek, O.
A. M. Nichter, Bellefontaine, O.
Frank L. Sanford, Brooklyn Studebaker branch, Brooklyn, N. Y.
S. S. Carroll, Jr., Hartford City, Ind.

Motor Car Dealers Recently Established

COMMERCIAL CARS		
CONNECTICUT		
Place	Car	Dealer
Stamford	Koehler	N. J. Wadham
KANSAS		
Arkansas City	Koehler	U. P. Paris
MISSOURI		
Jefferson City	Koehler	P. M. Garag
NEW YORK		
New Milford	Koehler	J. C. Drew
PLEASURE CARS		
MICHIGAN		
Saginaw	Hudson	Sutton Sales Co.
MINNESOTA		
Amboy	Oldsmobile	H. F. Day
MISSOURI		
Hoonville	Oldsmobile	F. C. Brickey
St. Louis	Studebaker	J. W. Leigh
St. Louis	Halladay	F. J. Koehler
NEBRASKA		
Clarks	Oldsmobile	W. Chamberlain, Jr.
NEVADA		
Tonopah	Oldsmobile	H. H. Bacon
NEW HAMPSHIRE		
Milford	Oldsmobile	Souhegan Auto & Elec. Co.
NEW JERSEY		
Newark	Marmon	Pierre L. Smith Co.
NEW MEXICO		
Ft. Sumner	Oldsmobile	Carl Frymire
Raton	Oldsmobile	E. J. Love Motor Co.
NEW YORK		
East Jaffery	Oldsmobile	Bean & Symonds Co.
Plattsburg	Marmon	A. H. Marshall Co.
Poughkeepsie	Oldsmobile	C. C. Andrews
OHIO		
Akron	Oldsmobile	C. E. Albright
Cincinnati	Oldsmobile	Junglas Auto Co.
Cleveland	Regal	H. & G. Company
Perryopolis	Oldsmobile	D & S Garage
Rittman	Oldsmobile	H. Fortney
PENNSYLVANIA		
Harneshoro	Oldsmobile	J. H. Vogel
Helfefonte	Oldsmobile	Palace Garage
Franklin	King	H. Smith
Gettysburg	Oldsmobile	Center Square Garage
Greensburg	Oldsmobile	Greensburg Auto Co.
Johnstown	Oldsmobile	E. L. Geer
Harrisburg	Sphinx	P. D. Messner
Leeburg	Cornellian	Hill Hardware Co.
Leola	King	N. E. Martin
Lititz	Oldsmobile	J. F. Longenecker
Millersville	King	Eshbach & Eshbach
Millway	King	J. H. Reitz
Mt. Carmel	Oldsmobile	Mt. Carmel Garage
Philadelphia	Crow	Union Motor Co.
Pottsville	Oldsmobile	Motor Parts Sales Co.
Orbisonia	Saxon	Ripples Garage Co.
Quarryville	King	C. H. Aument
Ridgeville Corners	Chevrolet	Rohrs-Robinson Co.
Ridley Park	King	Ridley Park Garage Co., Inc.
Rochester	Oldsmobile	Joseph Grandey
Williamsport	Cornellian	West Branch Motor Co.
Wilkes-Barre	Oldsmobile	Wilkes-Barre Auto Co.
Woodlawn	King	F. A. Hornstein
SOUTH DAKOTA		
Deadwood	Saxon	C. R. Wagner
TENNESSEE		
Jackson	Oldsmobile	Howard & Rauscher
Knoxville	King	King Motor Sales Co.
Martin	Chevrolet	C. J. Dudley
Memphis	King	Sloan Machine Co.
Memphis	Wichita	John C. Dix & Son
Nashville	King	State Motor Car Co.
TEXAS		
San Antonio	Cornellian	R. Borge Wire Works
UTAH		
Goshen	Saxon	E. Nelson
Logan	Oldsmobile	T. L. Redford
Logan	King	Thatcher Music Co.
Salt Lake City	King	Barnhart & Danner
VERMONT		
Burlington	Franklin	E. A. Brodie
Marion	Oldsmobile	Marion Hardware Co.
VIRGINIA		
Bluemont	Oldsmobile	R. L. Humphrey
Chatham	Saxon	Southside Automobile Co.
Crowe	Saxon	MacFarish Motor Car Co.
WEST VIRGINIA		
Clarksburg	Chevrolet	Ransome Motor Car Co.
Wellburg	King	Gamble & Carman
Martinsburg	King	Berkeley Garage
WASHINGTON		
Spokane	Franklin	W. J. Maxwell

WEST VIRGINIA		
Place	Car	Dealer
Clarksburg	Saxon	Monticello Auto. & Garage Co.
Charleston	Saxon	E. R. Calloway
Fayetteville	Chevrolet	J. C. Hamilton
Crafton	Oldsmobile	Oldsmobile Co. of W. Va.
Keyser	Chevrolet	Davis, Loy & Co.
Logan	Saxon	E. R. Mullins
Marion	Oldsmobile	Marion Hardware Co.
Moundsville	Chevrolet	Mound City Auto Co.
St. Mary's	Saxon	R. O. Murphy
Summersville	Saxon	David W. Dunbar
Tappahannock	Oldsmobile	E. C. Anderton
Wheeling	Chevrolet	J. J. O'Keefe
Winchester	Oldsmobile	Donald L. Weems
Yawkey	Saxon	Adkins-Henderson Co.
WISCONSIN		
Appleton	Bulck	Appleton Bulck Motor Car Co.
Appleton	Case	Main Auto Co.
Appleton	Oldsmobile	Main Auto Co.
Haraboo	King	A. S. Lanich
Helott	Ohio Electric	Wm. C. Schultz & Son
Herlin	King	E. C. Deibler
Bondel	Oldsmobile	Adolph Ulmer
Clinton	King	J. Terwilliger & Son
Cobb	Sphinx	Gibbs Brothers
Colby	King	F. Ripplinger & Son
Denmark	Hudson	Kriwanek Bros.
De Pere	Apperson	McGeohan Sons Co.
Dodgeville	Oldsmobile	Metropolitan Auto Co.
Eau Claire	Overland	Overland Company
Fond du Lac	Hudson	L. A. Voell
Green Bay	Hudson	C. A. Jones
Green Bay	Oldsmobile	De Bots-Haavers Co.
Horicon	Bulck	G. T. Kalles
Green Bay	King	Hooker & Kittell
Helbert Junction	Oldsmobile	Auto Elec. & Gas Lg. Co.
Janesville	Hudson	Hilton Garage
Janesville	Saxon	J. A. Strimpe
Jefferson	King	Jefferson Auto Co.
Kenosha	Oldsmobile	W. M. Curtiss & Sons
Kenosha	Chevrolet	W. M. Curtiss & Sons
Livingston	Hudson	A. T. Spang Auto Co.
Lodi	Oldsmobile	J. I. McFarland
Lone Rock	Patterson	Jordan & Webster
Milwaukee	Inter-State	Creek Motor Sales Co.
Milwaukee	Oakland	Wisconsin-Oakland Co.
Milwaukee	Oakland	Milwaukee Motor Sales Co.
Montello	King	James O'Donald
New Holstein	King	M. Bloomberg
New Richmond	Cornellian	R. L. Minler
La Crosse	King	W. G. Garbers
Mellen	Auburn	C. A. Poundstone & Son
Menominee	Reo	Edmund Piexper
Oshkosh	King	B. S. Friday Auto Co.
Platteville	Saxon	Edelhoven Motor Co.
Racine	King	Loches & Smader
Reedsburg	Jeffery	Duren Brothers
Rhineland	Case	T. C. Wood Hardware Co.

Motor Car Securities Quotations

	July 10, 1914	July 10, 1915
	Bid	Asked
Ajax-Grieb Rubber Co., com.	220	300
Ajax-Grieb Rubber Co., pfd.	98	101
Aluminum Castings, pfd.	98	100
Chalmers Motor Co., pfd.	101	90
Chalmers Motor Co., com.	94	96
Firestone Tire & Rubber Co., com.	300	500
Firestone Tire & Rubber Co., pfd.	108½	110
General Motors Co., com.	81	92½
General Motors Co., pfd.	92	93
B. F. Goodrich Co., pfd.	26	27
B. F. Goodrich Co., com.	88	90
Goodyear Tire & Rubber Co., com.	166	170
Goodyear Tire & Rubber Co., pfd.	96	97½
Gray & Davis, Inc., pfd.	98	102
International Motor Co., com.	3	12½
International Motor Co., pfd.	9	35
Kelly-Springfield Tire Co., com.	58	58
Kelly-Springfield Tire Co., 1st pfd.	76	80
Kelly-Springfield Tire Co., 2nd pfd.	84	100
Maxwell Motor Co., com.	15	34
Maxwell Motor Co., 1st pfd.	44	45
Maxwell Motor Co., 2nd pfd.	18	19
Miller Rubber Co., pfd.	100	103
Packard Motor Car Co., com.	103	112
Packard Motor Car Co., pfd.	97	100
Peerless Motor Car Co., com.	10	17
Peerless Motor Car Co., pfd.	50	94
Portage Rubber Co., com.	30	35
Portage Rubber Co., pfd.	90	92
*Reo Motor Truck Co., com.	11½	12½
*Reo Motor Car Co., com.	18	30
Stewart-Warner Speed. Corp., com.	51½	52½
Stewart-Warner Speed. Corp., pfd.	99	101
Studebaker Corp., com.	20	32
Studebaker Corp., pfd.	83	86
Swinehart Tire & Rubber Co.	85	87
U. S. Rubber Co., com.	59½	60½
U. S. Rubber Co., 1st pfd.	103	104
White Co., pfd.	107	110
Willis-Overland Co., com.	88	89
Willis-Overland Co., pfd.	94½	95

*Par value 10; all others \$100.

Place	Car	Dealer
Richland	Hudson	Grant Ross
Sawyer	King	J. Peltier
Shoolhill	King	H. F. Knorr
Shelbygan	Hudson	Shelbygan Auto & Supply Co.
Shelbygan	Studebaker	H. & P. Schlichting
Shullsburg	Hudson	J. J. Jamieson
South Milwaukee	Overland	South Milwaukee Garage
Sturgeon Bay	Overland	The Sawyer Garage
Sturgeon Bay	Chevrolet	The Sawyer Garage
Whitewater	Hudson	Mason & Kraplin
Woneoc	Hudson	Gale & Herrewig

WYOMING

Rawlins	Chevrolet	M. M. Rubner
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COLORADO

Grand Junction	Oldsmobile	Western Slope Auto Co.
Julesburg	Oldsmobile	Parker Bros.
Sterling	Oldsmobile	Felkner Auto & Repair Co.
Walsenburg	Oldsmobile	H. D. Palmer

Coming Events

*Indicates sanction by A. A. A.

July 31	Denver, Col., Road race. Promoter, Chas. L. Newcomb, Jr.
July 31	Des Moines, Ia. — Speedway races.
Aug. 2-3	San Francisco, Cal., Tri-State Good Roads Association, third annual convention.
Aug. 14	Janesville, Wis., Track meet, Janesville Park Assn.
Aug. 21	Elgin, Ill., Road races, Chicago Auto Club.*
Aug. 28	Kalamazoo, Mich., 100-mile track race, Kalamazoo Motor Speedway.
Aug. 30-Sept. 3	Columbus, O.—Automobile show; Columbus Automobile Show Co.; Ohio State Fair.
Sept. 4	Minneapolis, Minn.—Speedway races; Twin City Motor Speedway.
Sept. 6	Providence, R. I., Speedway races. Promoter, F. E. Perkins.
Sept. 6	Detroit, Mich., Speedway races, Detroit Speedway Club.
Sept. 6-9	Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
Sept. 11	Minneapolis, Minn. Speedway races; Twin City Motor Speedway.

Sept. 17-18	Peoria, Ill. Convention of Garage Owners Association of Illinois.
Sept. 18-25	Los Angeles, Cal.—Eighth annual automobile show.
Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
Oct. 2	New York, N. Y. Speedway races, Sheepshead Bay Speedway Corp.
Oct. 3-10	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Oct. 6-16	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
October 7	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.
January 1-8	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
January 22-29	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
March 4-11	Boston, Mass.—Fourteenth Annual Show; Boston Automobile Dealers Assn.; Boston Commercial Vehicle Assn.

MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 3

New York, July 21, 1915

Ten cents a copy
Two dollars a year

Chalmers 1916 Cars Ready

THE Chalmers Motor Company, with its new organization, even greater factory facilities, additional buildings, more men and still more capital, with a quadrupled production, is bringing out for the season of 1916 a series of cars, the equals of which have never been offered before.

The Chalmers Motor Company is the only leading manufacturer that is offering a new car for 1916 at a new price—in the medium priced class.

Others have either put out a new car at a higher price, the same old car at the same old price, or the same old car at a cut price.

This new Chalmers is the Six-40 shown below at the astounding price of \$1275.

The Light Six and Master Six are continued in improved models at lower prices.

The Chalmers Motor Company has also inaugurated a new Chalmers Service Plan by means of which each new Chalmers owner is given gratis a definite amount of service in the form of an interchangeable Service Coupon book, good for a definite amount of work at any Chalmers dealer's—anywhere.

1916 Chalmers Models and Prices

Chalmers Six-40
5-passenger . . . **\$1275**

Chalmers Six-48
7-passenger . . . **\$1550**

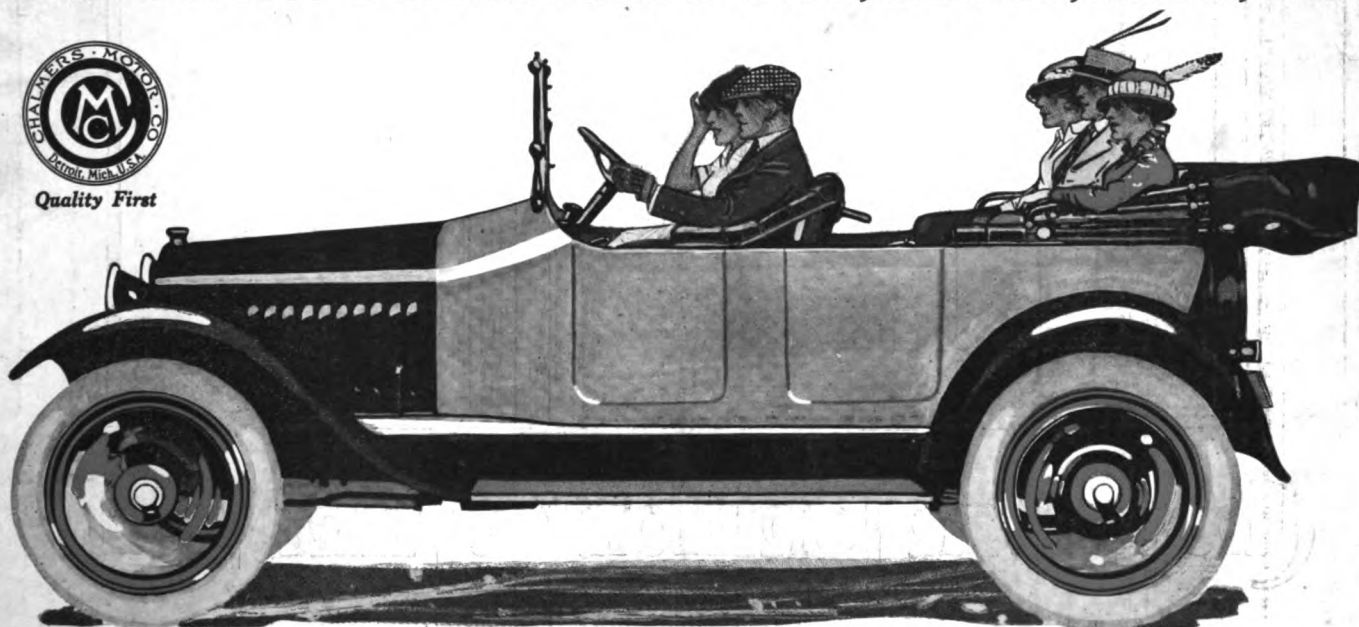
Chalmers Master Six in
either Touring Car or **\$2175**

TO
Limousine bodies, ranging from . . . **\$3250**

CHALMERS MOTOR COMPANY, Detroit, Mich., U.S.A.



Quality First



"Let your next car be a Chalmers"



A-C, CICO & TITAN SPARK PLUGS



A C Spark Plugs Increase Mileage Per Gallon and Reduce Motor Wear

A pretty strong statement, but nevertheless true and easy to prove. Our extended experience with spark plugs and gasoline motors has enabled us to determine that a majority of so-called spark knocks are due to poor spark plugs.

For example—Recent experiments conducted with a popular make of car demonstrated that the substitution of our plugs eliminated the engine knock which was plainly evident with advanced spark when another make of plug was used.

The added efficiency of "A C" plugs permitted extreme spark advance, thus insuring greater speed with same throttle opening, a cooler motor and less consumption of gasoline.

The saving of the motor itself is obvious as any motor knock causes bearings to wear and deteriorate rapidly.

If A C plugs fail to remedy conditions as outlined above, we will gladly refund their purchase cost.



These Cars Are Factory Equipped With A C Plugs

Apperson	G. M. C.	Monroe	Reo
Buick	Haynes	Moon	Saxon
Cadillac	Harley-Davidson	National	Scripps Booth
Chalmers	Hudson	Oakland	Stearns
Chase	Hupp	Olds	Stutz
Chevrolet	Jackson	Packard	Touraine
Cole	Knox	Paige	Velie
Dodge	Lexington-Howard	Peerless	Westcott
Dort	Moline	Pierce-Arrow	Wilcox
Federal			

We manufacture only A C, Titan and Cico plugs. Do not be misled by a similarity of names.

Champion Ignition Co. Flint, Mich.

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The 1916

Overland**\$750**

Model 83. f. o. b. Toledo

Roadster - - \$725

Obvious Value

The daily shipments of Model 83 are almost twice those of any previous Overland model.

In the two months that we have been shipping 1916 models we have shipped as many cars as we did 1915 models during the first 6½ months of last season.

In spite of this fact, the value of the car is so obvious that new orders keep coming in just as fast as we can increase our production.

To date we have had more orders for this model 83 than we sold of all models last year.

Though because of this it may take you a little longer to get an Overland than some less desirable car, its merit is so great that it is worth waiting for.



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MOTOR WORLD

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No. 3

Kill the Octopus by Better Business

Wisconsin Garagemen Shake Off Grip of Mail Order House

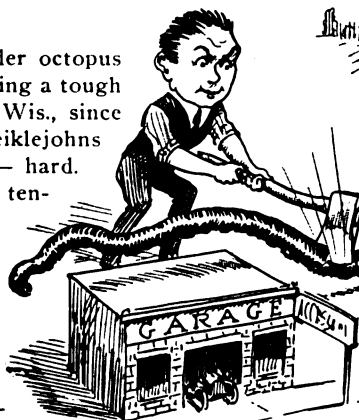
THE mail order octopus has been having a tough time in Waupun, Wis., since April. The Meiklejohns are after him — hard.

They cut off the tentacle that had been pilfering from the Meiklejohn cash drawer and are still lustily wielding the axe of Better Business in their fight for Greater Profits.

And what's more, the profits are getting greater and greater every day. This, it might be added, while it is encouraging to the Meiklejohns, is also somewhat startling, for they have discovered to their surprise that the big, black, many-fingered devil fish can easily be licked and will let go quickly if the prospective victim turns and fights.

Wherefore—when Motor World opened its Campaign for Greater Profits in the garage through the sale of accessories and supplies—they stood up and fought the octopus. This was last spring—and the victory was quick and quite complete.

They have learned how to shake off the grip of the distant cut-price merchant, and they want their fellow garagemen to enlist in the fight. It swells the receipts, in-



creases the profits and brings prosperity.

These two devil fish fighters are J. W. Meiklejohn, the father, and J. H. Meiklejohn, the son. They operate a garage and sell the Ford in Waupun, a city of 3,362 population, 150 miles northwest of Chicago, the big breeding spot of the octopi.

Two years ago they started business on a side street and did such a good business in cars that, like many another, they entirely overlooked the accessory end of the possible profits. To be sure, a small line was carried, but not much attention was paid to it, there was practically no display, and the department amounted to practically nothing.

Then, last spring they saw an opportunity to move to the main street, and—being wideawake and aggressive—they seized the opportunity. Also, just about that time Motor World began its Campaign for Greater Profits, the theme of

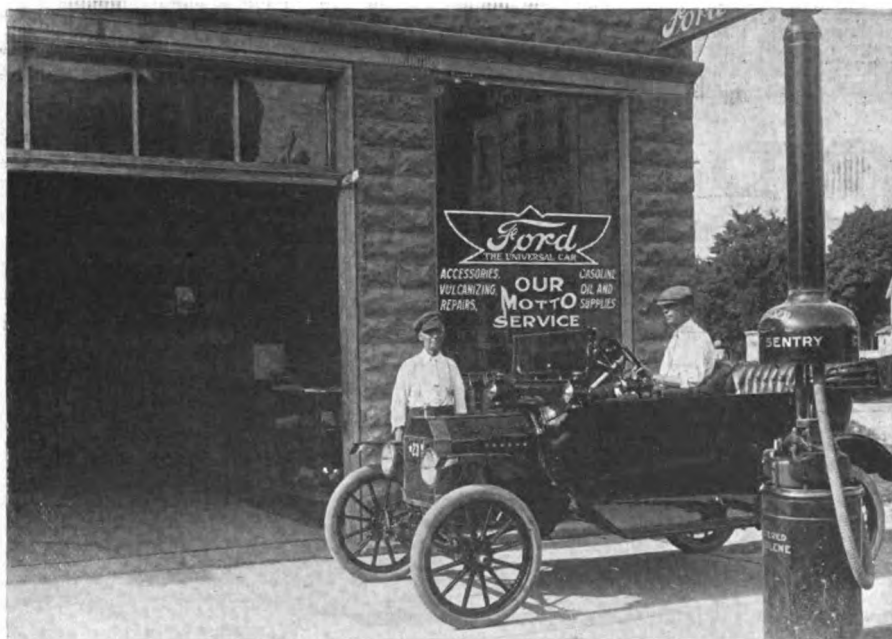
The best way for any merchant to fight the mail order house is to forget that the mail order house exists and go ahead letting people know what he has to sell. If most of the merchants in this town would use half as much effort in advertising their own goods and letting people know what they sell as they do in worrying about the mail order houses they would all do a lot more business.—J. W. Meiklejohn, Waupun, Wis.

which is that there is a good and profitable trade for the garageman and car dealer in selling acces-

Next Week! This Man



He is marshalling 1,200 dealers and garagemen in a fight against the mail order octopus. He has a carefully laid plan. He is fighting hard. His story will be told on this page next week. Watch for it!



This is the Meiklejohn Garage in Waupun, Wis., that by displaying and pushing accessories has regained the trade that had been going to the big catalog houses. Left, J. W. Meiklejohn. Right, J. H. Meiklejohn, his son

sories and supplies to car owners, but that these accessories and supplies must be brought out into the daylight, dusted off and displayed just as effectively as the druggist or haberdasher displays his goods.

And being aggressive and wide-awake and having acquired the opportunity-seizing habit, they grasped this idea, too. It does not necessarily follow that they increased their stock, but they did remodel the building and arrange for a proper display. A room which includes a car salesroom, office and accessory store was separated from the rest of the building and was made to look like a regular merchandising establishment. "The result is," says Meiklejohn senior, "that we sell practically all of the accessories that

I suppose some goods are mail-ordered here, but our customers seem to prefer to trade with us because they know us and know that we stand back of everything we sell.—J. W. Meiklejohn, Waupun, Wis.

are bought by Ford owners in Waupun; also we are getting a whole lot of business from other car owners who needed only the opportunity to get things when they want them and to see things before they buy.

"Thanks to Motor World we began to realize that our accessory business had not been in proportion to the number of car owners



This is one of the set-ups used in the window shown above. Since following Motor World's Campaign for Greater Profits these garagemen have made the display of accessories a feature of their business

in Waupun, and we were forced to the conclusion that it was due largely to the fact that even our customers did not know they could get accessories in Waupun and were buying them by mail."

With this segregation of these departments, the attention of customers is not distracted by greasy workmen and the usual termoil of repair work. One of the proprietors makes it his business to stay in the office and take care of this trade. The other member of the firm takes care of repairing and the garage and livery departments.

"Our success in the accessory business," he says, "dates from the time we began to realize that our front window had a value aside from letting light into the garage. We consider our display window and accessory show case two of our most valuable salesmen. The display is near the door, where it is visible to all who enter the garage, and we have very nicely arranged to use the top of our large display cabinet for our tire display."

Meiklejohn was postmaster in his town until a few months ago and he knows the extent of mail order business in that locality. He has seen hundreds of catalogs come into town and states that there are just as many of them in his vicinity as there are anywhere else. This gave him an accurate insight into the situation and he knew what he was up against before he started, but he sums up the situation and result in these words:

"I know that our accessory business is increasing right along and I believe that the best way for any merchant to fight the mail order house is to forget that it exists and go ahead letting people know what he has to sell.

"If most of the merchants in this town would use half as much effort in advertising their own goods and letting people know what they sell as they do worrying about the mail order houses they would all do a lot more business.

"Also, so far as staples are concerned, when a man wants a plug

or a battery or pair of pliers he wants it right away and probably wants to charge it, whereas if he buys it by mail order he has to wait a week and then he has to pay cash.

"As it is, the mail order house does not bother us to amount to anything, because we feature the fact that in addition to selling accessories we sell service, and the cut price mail order house cannot compete in service. We also stand pat on our list prices and apparently our customers respect us the more for it. And so far as we are concerned we are going to stick to the list price because we need the money. We would rather not have business if we can't get it at a profit.

"Our \$600 stock of accessories is turned over about once a month. It includes such standard goods as Klaxon horns, Shaler vulcanizers, Weed chains and various makes of jacks, polishes, ignition specialties, electric starters and even thermos bottles. We also maintain a gas tank and battery exchange and have a tire stock valued at about \$800. Since we do not limit ourselves to Ford business we carry all sizes of tires.

"We endeavor to cash in on the advertising of the manufacturers whose goods we sell. When a manufacturer is conducting a national advertising campaign we display his goods and endeavor to take advantage of the demand he is creating for us."

One of the pictures which appears with this story shows a window set up designed by the Shaler



The accessories in the Meiklejohn Garage are in neat but inexpensive cases. The top of the case is used to display tires. Neatness and order is one of the principles under the Better Business regime

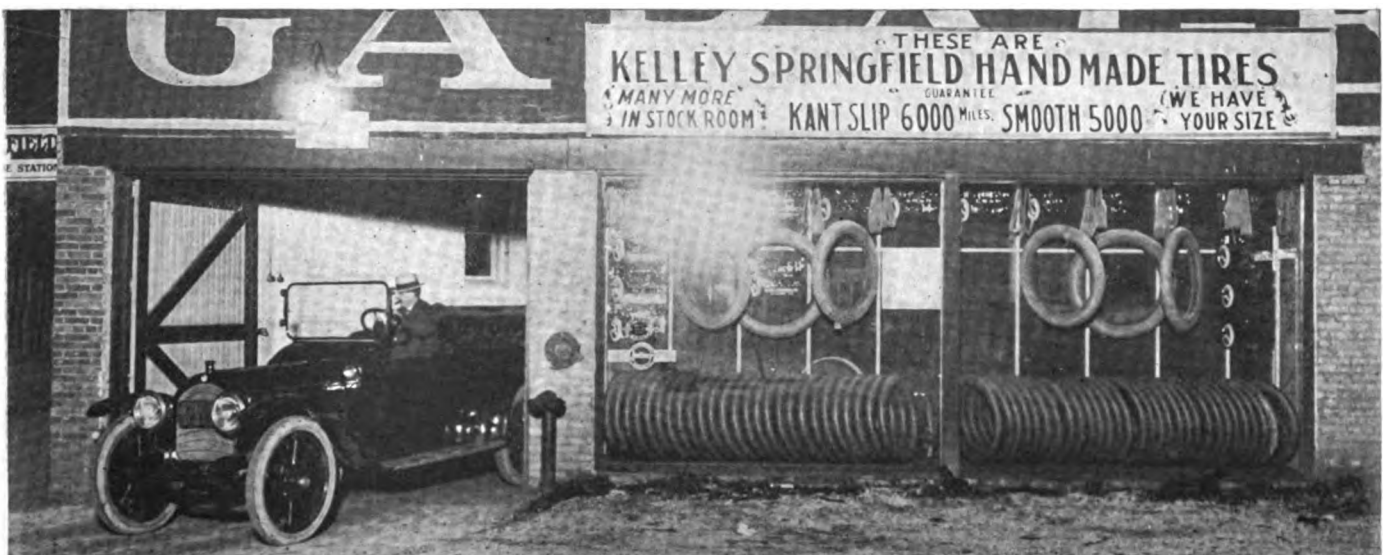
vulcanizer people, and in connection with this Meiklejohn answers the contention that the garagemen should not sell vulcanizers because they compete with his own repair department.

"I find that these vulcanizers compete with my line of patches and cement more than with my vulcanizing plant, and as there is more profit in a small vulcanizer than there is in a patch we sell a vulcanizer every time we get a chance. Somebody is going to sell this stuff to our customers anyway and, as I said before, we are in this business for the money there is in it. If we think a customer ought to have any accessory

we tell him why without waiting for him to ask us and that is a reason why our accessory business is showing such a good big profit.

"We have put that stock of accessories in to make money for us and if it would not do this in spite of the mail order house we would cut it out. If garages did not carry gasoline in stock people would probably order that from the mail order house just the same as they used to do before we started carrying accessories. I suppose some goods are mail-ordered now, but our customers seem to prefer to trade with us because they know us and know we stand back of everything we sell."

Joslyn of Rockford Is Keeping up His Better Business Windows



Joslyn, as was told in Motor World of June 23, rebuilt his theretofore useless window in accordance with ideas in Motor World's Campaign for

Greater Profits and at once tripled his accessory sales. He is still pushing and displaying these goods. This is the window used last week. He

has a new window every week, which is the secret of display success. The wide-awake accessory man always keeps his window alive.

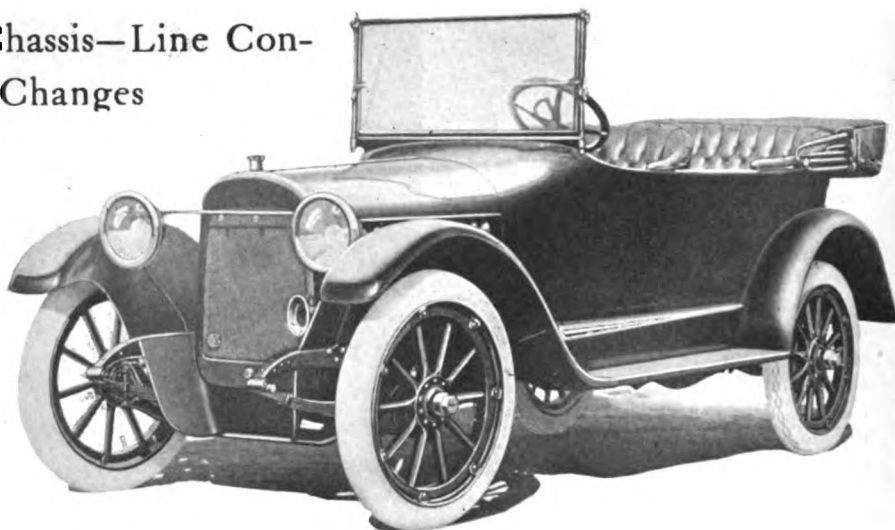
Chalmers Evolves Convertible Type Body

To Be Mounted on 6-40 Chassis—Line Continued with Few Changes

THE Chalmers Motor Co., Detroit, will have three cars for 1916, and of these the six-40 will be the principal product. The six-48 and the "Master" six will be continued with few changes. Of the six-40 there will be two types, five-passenger and seven-passenger, the latter having 4 inches more wheelbase and semi-elliptic rear springs instead of cantilevers as used on the five-passenger. These two models are \$1,275 and \$1,350, respectively. The six-48, which is of different design, costs \$1,550 with seven-passenger body, and the Master six \$2,175 with touring body.

For fitting to the six-40 a new body is being developed which is either a standard open touring or a sedan. Whether the car is open or closed there is nothing to show that it is convertible and in the closed condition the appearance is excellent. This new body is not yet in production but will be available later in the season—probably in the early part of the fall.

The unusual feature of the six-40 motor is that the overhead camshaft is driven at its center by a large worm gear and to obtain a similar drive at the center of the crankshaft the middle bearing is divided into halves. This makes a four bearing shaft. Having a bore of $3\frac{1}{8}$ and stroke of 5 the motor is intended for high speed, so great rigidity of crankshaft and case were desired. The former has been obtained by using a $2\frac{1}{4}$ -inch shaft and the latter by very rigid web work around the center bearing supports and the use of a box form



The 6-40 is the leading car of the Chalmers line for 1916. It is built in 5- and 7-passenger types and will carry the new convertible body

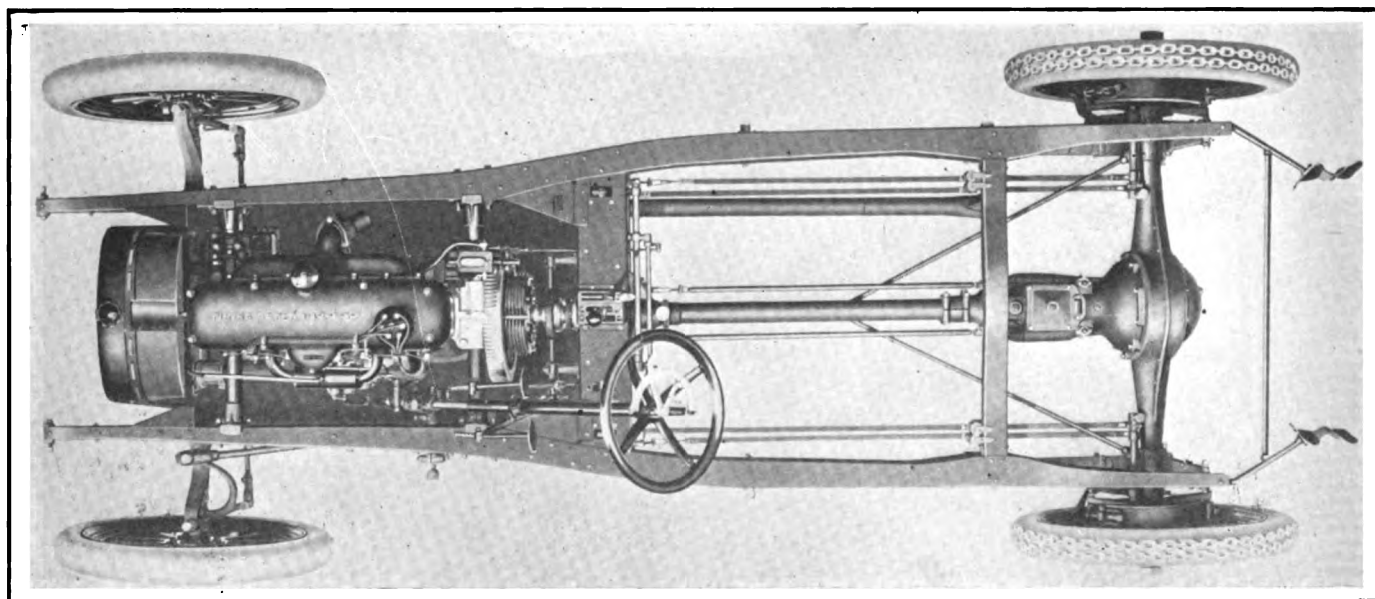
CHALMERS SIX-40 DETAILS

Price—	
Touring, 5-passenger.....	\$1,275
Touring, 7-passenger.....	1,350
Make of motor.....	Chalmers
Number of cylinders.....	Six
Shape	Overhead valve
How cast.....	Block
Bore	$3\frac{1}{8}$
Stroke	5
S. A. E. rating	23.5
Ignition	Atwater Kent
Carburetor	Rayfield
Starting-lighting....	Gray & Davis
Clutch	Dry plate
Gearset	3
Wheelbase	120-124
Tires	34×4
Wheels	Wood
Steering	Left
Control	Center
Type rear axle.....	Full floating

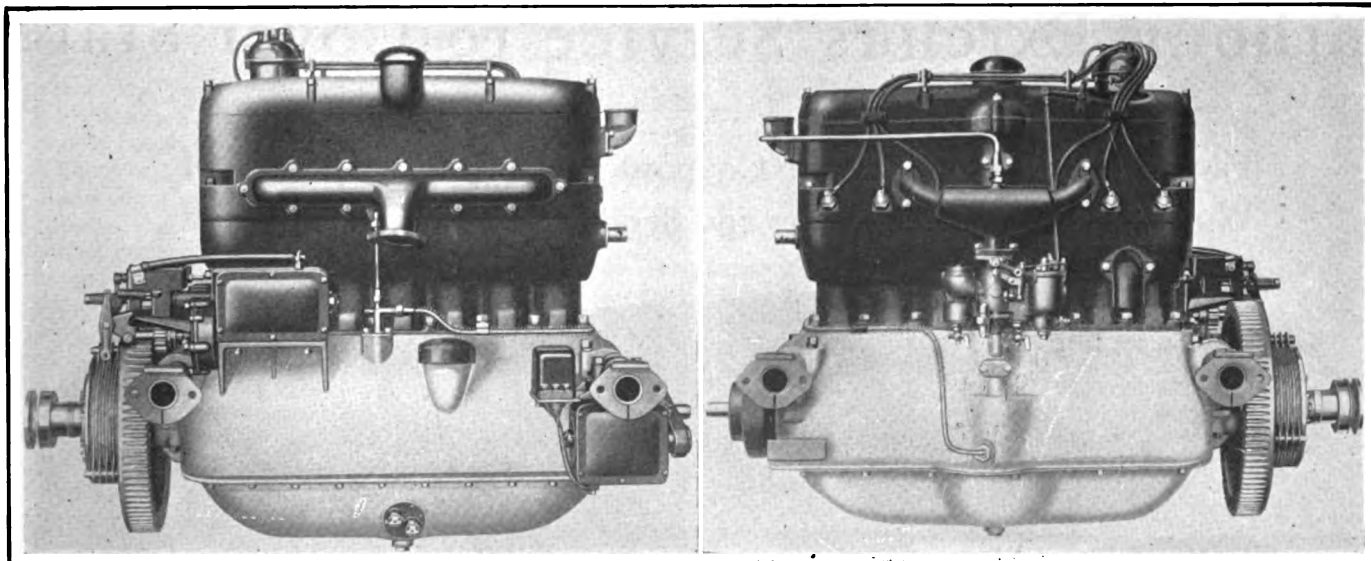
of crankcase with sides that come much lower than usual.

The cylinder block consists of three portions. The lower is the part in which the pistons work and is a simple casting. On this rests the head casting which carries the camshaft, the valves and the spark plugs, while on top of all is an aluminum cover. Two features of great convenience to the driver are the positions of the ignition distributor and the oil filler, both these parts being above the top cover.

The camshaft is hollow and a small hole is drilled through each cam; at the center there is a supply for the skew gear and, of course, holes for the supply to each bearing. Oil is pumped to the front end bearing direct, and thence passes along the shaft, but the size of



Substantial construction throughout is a feature of the Chalmers chassis. The frame is widened where extra material is needed and is unusually well braced and gusseted. The rear axle gearset is unusually light and compact



The Chalmers motor is an unusually neat one, due largely to the placing of all the valve gear on the top and inclosing it in a housing. A dry plate clutch of simple construction is used

the outlets prevents too much lubricant from reaching the valve compartment. Gutters serve to catch what little drip there is and conduct the oil back to the shaft tunnel whence it returns to the crankcase. For the crankshaft there is a supply to each main bearing, all the oil leads being copper pipes, and dip troughs are used for lubricating the connecting rod bearings. Splash, of course, cares for the pistons in the usual way.

The same vertical shaft which drives the cams is used for the oil pump drive, as the pump is mounted directly beneath it and connected by a short jointed shaft that allows the pump to be taken off for cleaning without disturbing other parts.

Having all the valve gear on top means that the generator and starting motor can be put in any convenient place alongside, without interference with other parts. Thus, instead of the starting motor being low down and almost in the mud pan, as it sometimes has to be, it is carried high up on a bracket on the crankcase side. There are, of course, several bearings and joints in the mechanism which slides the pinion into mesh with the flywheel rim gear, and the high placing of the motor makes these points very easy of access.

A very simple and yet completely effective means for adjusting the generator drive chain is employed, this being made possible by the method of support for the motor. In the crankcase are two large holes, one at each end, running transversely through the aluminum, and steel tubes are put through these holes to form the crankcase arms. The Gray & Davis generator is hung just beneath the right hand end of the front tube, where it is sufficiently accessible for all purposes, and the bracket which holds it is gripped to the crankcase supporting tube by a clamp screw. The drive chain is outside the crankcase, so by

slacking the clamp screw and gently tapping the bracket along the tube the chain can be brought to any desired tension and held there by a turn of the clamp. The whole operation of adjustment can be performed very easily and quickly.

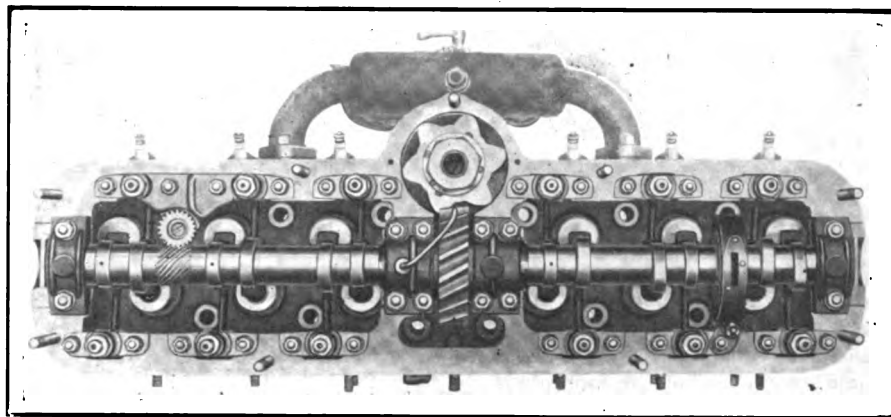
Back of the motor is a simple form of dry plate clutch with a light action and then the short double universal to which the front end of the drive shaft attaches. The Chalmers company pins its faith to the axle gearset so that the chassis divides into but three main assemblies. To cut the unsprung weight, a carefully designed aluminum gearcase is used, and another point that should be mentioned is that the gear shifting rods are laid out on such centers that rough roads and high speed combined have no tendency to throw the gear shift lever to and fro.

Brakes are 14 x 2 and 14 $\frac{3}{8}$ x 2 $\frac{1}{4}$; all rods and links are arranged to have a straight pull and the levers are well proportioned, so that plenty of arresting power is available without heavy pressure.

Special pains are taken to make the steering free and precise, this being a

matter of large thrust bearings and a proper setting of the front axle swivel pins. The middle spring support is under the frame instead of alongside it, removing all twisting stresses on the side rail and saving weight in the brackets and attachments. In practice the springs behave in a most exemplary manner, giving easy riding over the worst possible dirt roads and yet the rear springs are free from roll. In a short demonstration run over a particularly vile piece of sand road near the Chalmers factory it could be noticed that there was very little tendency for the car to plunge even with the rear seats unoccupied, and incidentally the same run showed the ability of the motor to pull smoothly on high gear through fairly heavy going.

The touring bodies have an almost straight line side and the high hood makes the car look powerful. Ample leg room and upholstery deep enough to give the soft feeling of a good arm chair combined with careful finish are the principal characteristics. Equipment is complete and includes a particularly handy rain vision windshield. Tires are 34 x 4 all around and there is one spare rim.

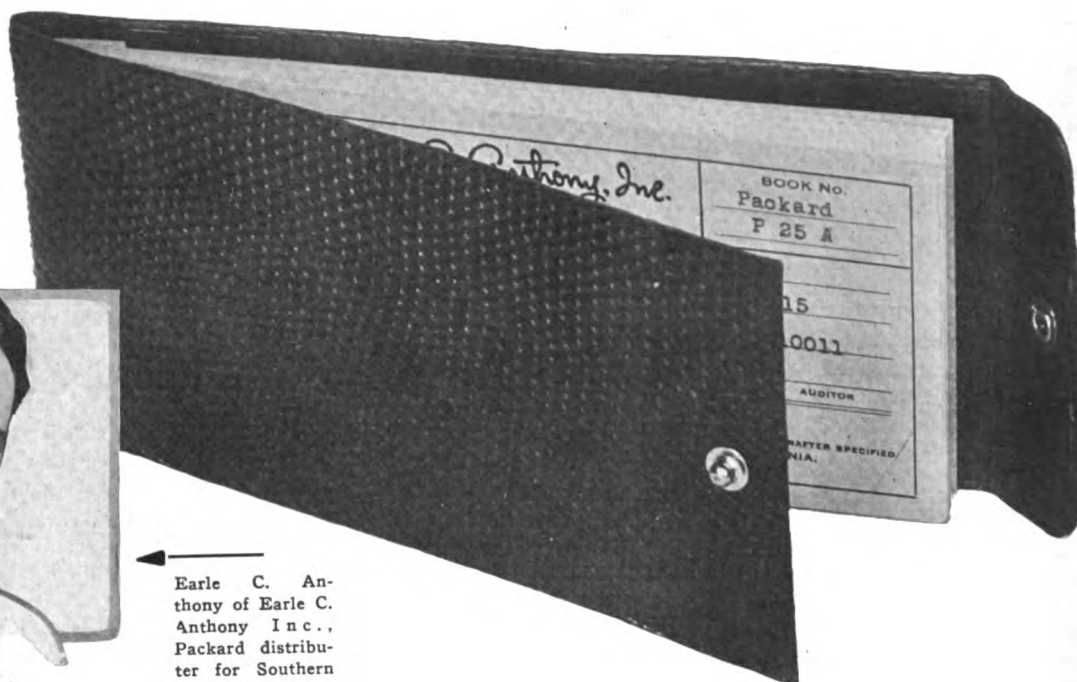


The overhead camshaft is driven at the center by worm gearing, the vertical shaft being worm-driven from the center of the crankshaft

Anthony Extends Service to Cover State

Packard Purchasers Given Coupons Good for 100 Hours of Work in Any of 177 Garages and Service Stations in California

The coupons are neatly bound in a leather book which serves also as a means of identification



Earle C. Anthony of Earle C. Anthony Inc., Packard distributor for Southern California

FREE service to the purchaser of a new car—that bugaboo of the dealer—is in a fair way to being settled once for all time by a method which has just been put in use by Earle C. Anthony, of Earle C. Anthony, Inc., Los Angeles, Southern California distributor for the Packard line. The scheme is unusually comprehensive and assures the purchaser of a car of the attention required not only while he is in Los Angeles but in practically any city or town in the state.

The purchaser of a Packard receives with it a book of coupons, in checkbook form and handsomely bound in leather, containing coupons which entitle him to a definite amount of service for a specified period of time. The purchaser of a Packard "38," for example, receives coupons good for 100 hours of service labor at the rate of 10 hours per month for 10 months. The purchaser of a "48" receives coupons which entitle him to 125 hours of service labor at the rate of 12½ hours per month for 10 months. The coupons for each month are of different color and will not be honored at any other time except during the month for which they are intended.

In return for this book and the service labor which it represents, the car pur-

chaser is required to sign an agreement, waiving any claim for adjustments, guarantee work, service labor or claims of any and all kinds on Earle C. Anthony, Inc. In case parts prove defective, these are to be returned prepaid to Earle C. Anthony, Inc., and new ones purchased. Anthony returns the defective part to the factory and if the factory admits the part to be defective, credit for the value of the part is extended the purchaser.

"Like the Dew"

The most unusual part of the whole scheme, however, lies in the fact that the coupons are redeemable, not only in Anthony's shops, but in every one of the 177 garages in various California cities and towns with which Anthony has a service agreement. The customer can pay for service work on his car in al-

The purchaser of a Packard 38 receives 200 of these coupons good for 100 hours of service labor spread over 10 months. The purchaser of a 48 gets 125 hours of free service

most any part of California. In case he is touring, he can find a garage in almost any town of consequence with which Anthony has a service agreement. These garages have been carefully selected with a view to picking the best in each town.

"This plan was adopted," says Anthony, "in order to place our service system on an absolutely plain and unmistakable basis, and a basis on which there should be no room for misunderstanding or argument.

"A salesman eager to sell a car is likely to give a purchaser an exaggerated idea of what service means. I have heard salesmen describe service in such glowing terms that the prospective buyer would have been justified in the belief that the firm would rebuild his car gratis if he collided with a street car.

"I doubt if there is a dealer in the



United States who has not had a customer come in for some unreasonable favor with the plea that the salesman promised it to him.

"When a man accepts one of our service coupon books, he knows exactly what he is going to get in the way of service. We make minor technical adjustments in our garage free of charge in addition, but the service coupon books give the customer a definite promise of what he is going to get in the form of service labor on his car. If it is not convenient for him to come to us for it, he can secure it just as well at the nearest one of the garages with which we have a service agreement. At the end of each month, each garage sends us the coupons they have taken in in return for labor, and we redeem them for cash.

"In determining the amount of service labor we could afford to give with each car, we averaged the free labor charges for 3 years and added 50 per cent to this."

LOS ANGELES, July 17—The service agreement of Earle C. Anthony, Inc., Packard distributor, will give the owner 80 hours of free service on each new twin six. This will be apportioned at the rate of 10 hours per month for 8 months.

Packard	Earle C. Anthony, Inc.	BOOK No. Packard P 25 A
100 HOURS OF LABOR	SERVICE COUPONS	
Property of John Owner		
Address Los Angeles Date of Issue May 11-15		
Car Packard "38" Body Touring Car Year 1915 Car No. 10011		
Issued by Los Angeles Approved by _____		
AUDITOR _____		
THIS BOOK CONTAINS COUPONS FOR SERVICE LABOR		
8000 ACCORDING TO TERMS OF CONTRACT ATTACHED WITHIN, AND IF PRESENTED WITHIN THE TIME LIMIT HEREINAFTER SPECIFIED AT ANY OF OUR DULY AUTHORIZED SERVICE STATIONS IN THE STATE OF CALIFORNIA.		
COPYRIGHT 1915 BY EARLE C. ANTHONY, INC.		

CUSTOMER'S AGREEMENT.

I, **John Owner**, having purchased **Packard** Motor Car, No. **10011** from **Earle C. Anthony, Inc.** on **May 11**, 19 **15**, herewith acknowledge receipt of **Earle C. Anthony, Inc.**, Service Coupon Book No. **P 25**, containing **100** hours labor, covering a period of **ten** months at the rate of **ten** hours per month, and that they must be used within the month specified in the coupon, and are not cumulative.

I agree to accept these coupons in lieu of any other gratuitous service, and agree that they are valid at the rate of **ten** hours per month, and that they must be used within the month specified in the coupon, and are not cumulative.

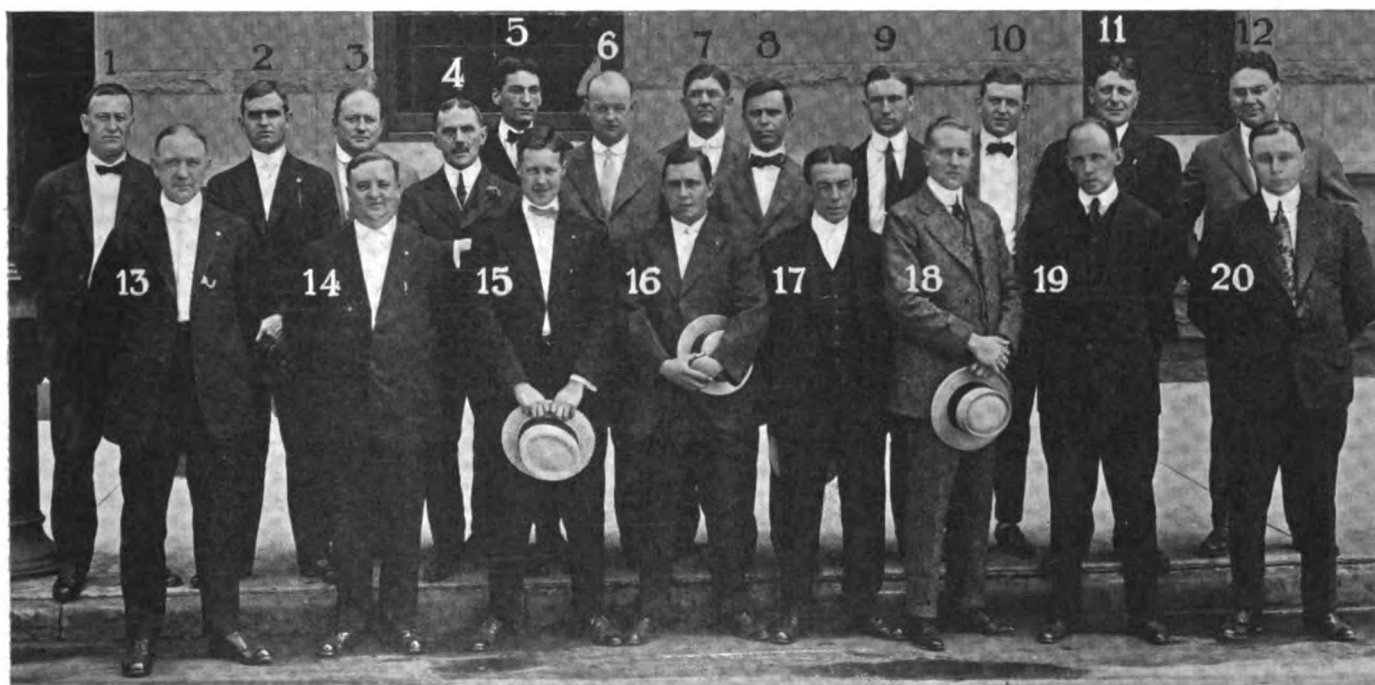
I hereby waive any claim for adjustments, guarantee work, service, labor or claims of any and all kinds on **Earle C. Anthony, Inc.** I understand that should I claim any parts to be defective, I am to buy and pay cash for such new parts as I may desire, and will return prepaid those claimed defective to **Earle C. Anthony, Inc.**, to be returned to the factory for inspection. It is understood that should the factory give credit to **Earle C. Anthony, Inc.**, that I am to have the credit extended to me.

Accepted **EARLE C. ANTHONY, Inc.**, By **John Owner** (Owner's Signature)

(NOTE—Two copies of the above to be signed by the purchaser of the car, and mailed direct to **EARLE C. ANTHONY, Inc.**, 1000 So. Hope Street, Los Angeles, California.)

Above is the identification card that is bound in the coupon book and below is the agreement which the purchaser signs when he is given the coupons

Representatives of the Sheldon Axle and Spring Co. at Factory



- 1—Thomas Palmer, general superintendent, Spring Mills.
- 2—E. L. Martin, sales manager, automobile axle department.
- 3—H. L. Spohn, Motor World.
- 4—G. M. Wall, general manager.
- 5—E. W. Acker, Detroit.

- 6—J. Fred Armstrong, secretary.
- 7—H. A. Young, Trenton.
- 8—Chester A. Ide, treasurer.
- 9—R. A. Schaaf, Eng. Dept.
- 10—W. M. Jones, Cincinnati.
- 11—F. W. Kleist, Chicago.

- 12—David Landau, consulting engineer, spring department.
- 13—O. A. Timberlake, Cincinnati.
- 14—E. J. Roth, spring department.
- 15—E. A. Skelly, Ad. Mgr.
- 16—J. B. Kaier, engineering department.

- 17—A. M. Laycock, chief engineer, auto axle department.
- 18—L. E. Lyons, Detroit.
- 19—E. B. Flanagan, engineering department.
- 20—A. C. Jamison, Chicago.

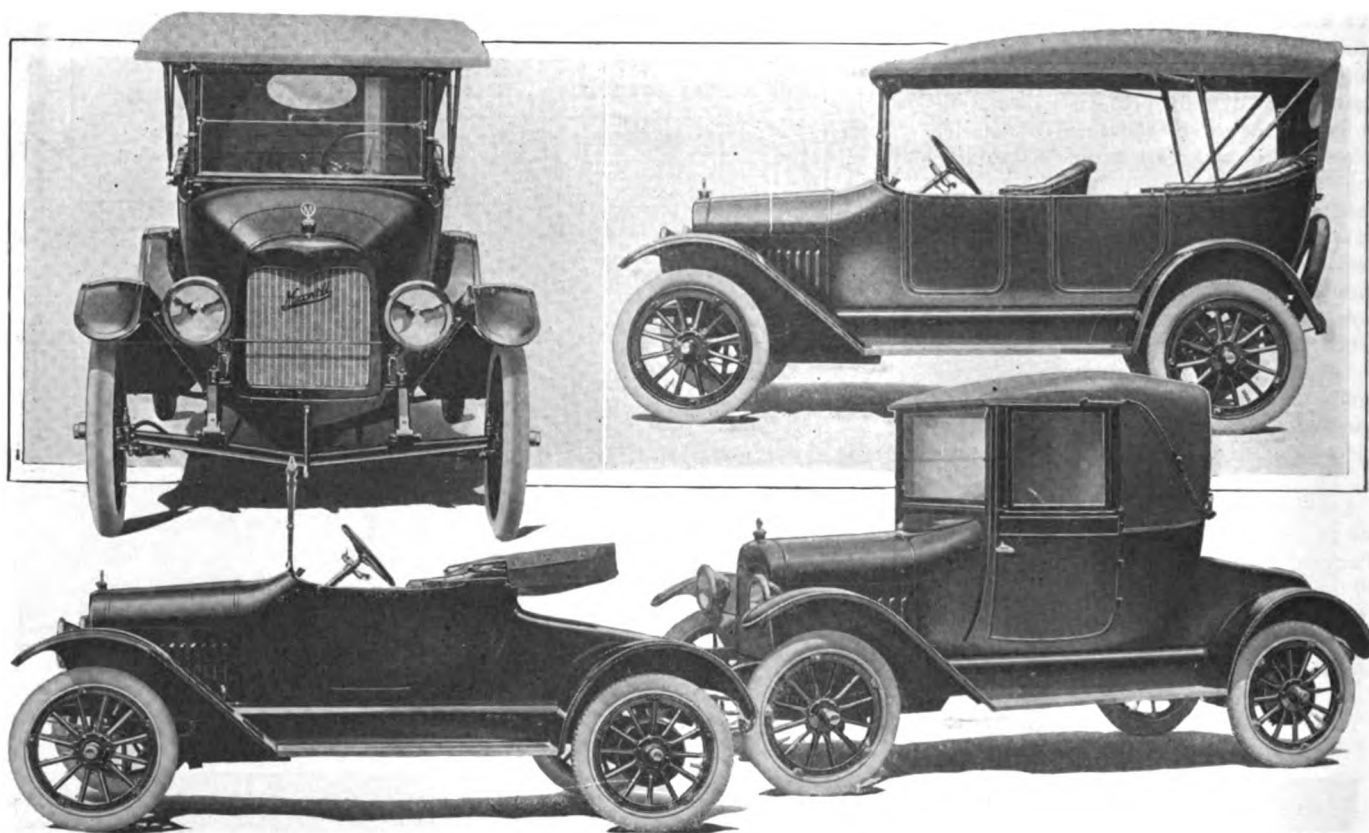
The Sheldon Axle & Spring Co. held an organization convention at the factory in Wilkes-Barre, Pa., last week. The increased factory facilities to care for an increased production were inspected. Thursday morning the spring division sales force revised its territory as follows: E.

W. Acker, Michigan, Ohio and Canada; H. W. Bowman, Michigan and Canada; A. C. Jamison, Indiana, Illinois, Wisconsin, Minnesota and Iowa; W. M. Jones, Ohio and Kentucky; O. A. Timberlake, Georgia, Indiana, Kentucky, Louisiana, North Carolina and West Virginia; J. A. Young,

New England, New York, Kentucky, New Jersey, Pennsylvania, Maryland, Virginia and District of Columbia. Howard L. Spohn, of Motor World, gave a luncheon address on "Advertising, and service it should render to the factory's salesman."

1916 Maxwell Better Car At Lower Price

New Model at \$655 Has More Room Inside and Improved Appearance



The roadster, touring car, town car and cabriolet all are mounted on the same Maxwell chassis, the wheelbase of which remains at 103 inches. Note the rather high, narrow radiator and the sloping lines of the hood, which add not a little to the general appearance of the car

BODY improvements both inside and out resulting in enhanced appearance and increased comfort and not a few mechanical changes that make for more strength and better running are features of the 1916 Maxwell. At the same time the price, which is \$655 in touring and roadster models, is substantially less than the former figures. The new price includes electric starting and lighting equipment—the car is not now built without it—and the 1915 roadster and touring car with this equipment cost \$725 and \$750.

The chassis still has a wheelbase of 103 inches. The radiator is somewhat narrower and higher than before, and the front edges have been rounded over while the top is given a very slight bulge and a suggestion of taper. This, together with the raising of the hood and the new shape of the front of the body where it meets the hood, give the car a

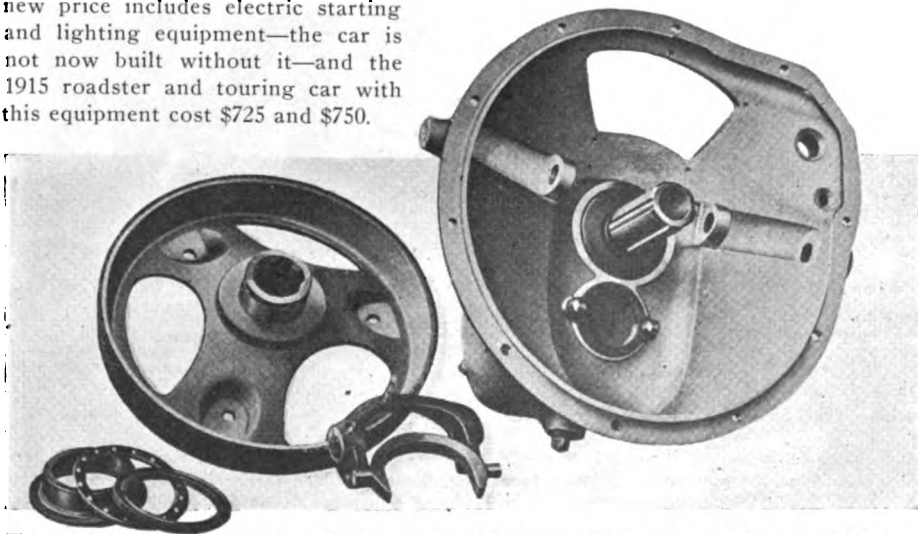
larger look and a more consistent line.

More leg room is provided as well as 3 inches greater seat width. There are 29 inches leg space in the front and 28 in the rear. Pockets have been put in

1916 MAXWELL DETAILS

Price, roadster and touring...	\$655
Cabriolet	865
Six-passenger town car	915
Convertible body car	935
Make of motor	Maxwell
Number of cylinders	Four
Shape	L-head
How cast	Block
Bore	3 3/8
Stroke	4 1/2
S. A. E. rating	21.1
Magneto	Simms
Starting-lighting	Simms-Huff
Clutch	Cone in oil
Gearset	3-speed
Tires	30 x 3 1/2
Wheels	Wood
Steering	Left
Control	Center
Type rear axle	3/4-floating spiral bevel

Equipment: Top with cover and side curtains, two-part windshield, speedometer, tire carrier, oil gauge, tools.



The clutch is a cast aluminum cone faced with woven asbestos and runs in oil. Large ball bearings are fitted to the throw-out

all four doors; the doors are considerably wider.

Appearance is improved by louvers in the hood and the new two-piece windshield, which has substantial side supports to carry the front of the one-man top, and by the domed fenders. Aluminum-covered runningboards are used instead of corrugated metal. On the floor of the front compartment linoleum with non-rustable metal edging is used in place of rubber matting.

More rigid supporting of the headlights is secured by bracketing them to the fenders instead of vertical supports from the frame. A well-arranged instrument board has speedometer and gauges set flush instead of protruding. The electrical connections are all brought to one unit which is removable so as to readily reach the terminals and has at its center a plate held by a spring. This exposes the fuses.

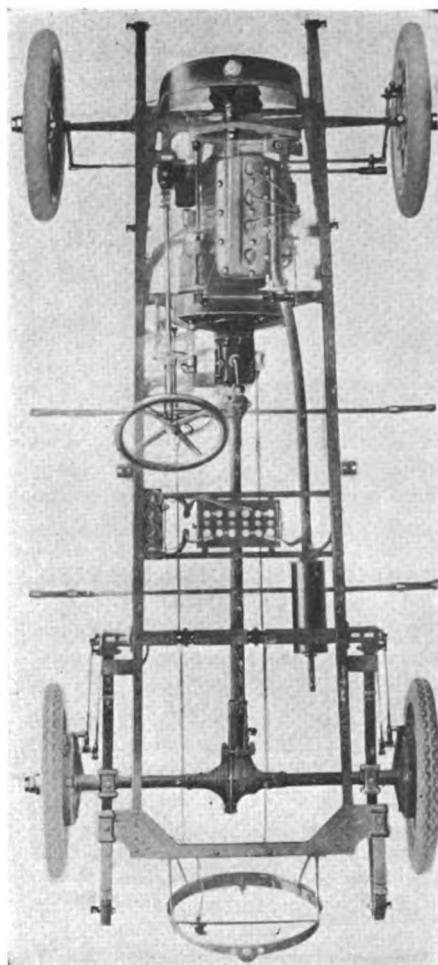
Tire equipment is 30 x 3½, with non-skids in the rear. A new feature is the use of demountable rims instead of the straight clincher type.

In addition to the open body models Maxwell offers a five-passenger permanent-top convertible-body type at \$935, a six-passenger town-car at \$915 and a two-passenger cabriolet at \$865.

The engine retains its cylinder measurements of 3½ x 4½ and rating of 21.1 horsepower by S. A. E. formula. Cylinders and upper part of crankcase are cast integrally. Valves and manifolding are on the right, as is also the Simms high-tension magneto. The two-bearing crankshaft seems exceptionally large for the engine. Two bearings support the camshaft also. The front gears are spiral bevels.

The engine is of the detachable-head type and this year an improved form of head is fitted. It is split higher up and makes a very simple design so far as removal is concerned.

Instead of introducing oil at the front trough and then allowing it to find its way through ducts to the others, each trough is individually supplied. A new aluminum base replaces the former



Clutch and flywheel are enclosed and the connections for the wiring greatly improved

pressed steel base. An oil gauge on the side of the crankcase is new, as is also a combination breather and oil filler on the left side.

Clutch and flywheel are enclosed completely instead of the former yoke construction, and the clutch runs in oil. The housing is designed to be oil tight, and thus the clutch is constantly bathed in the lubricant. A woven asbestos fabric is used as a facing for the cone and oil does not harm it. A slightly heavier clutch spring is used but the difference is so slight that action is not noticeably

stiffer. The cone is now made of cast aluminum instead of pressed steel.

The gasoline tank has been enlarged to hold 10 gallons. A sediment cup on the right under the hood strains the fuel going to the carburetor and is fitted with a shut-off cock.

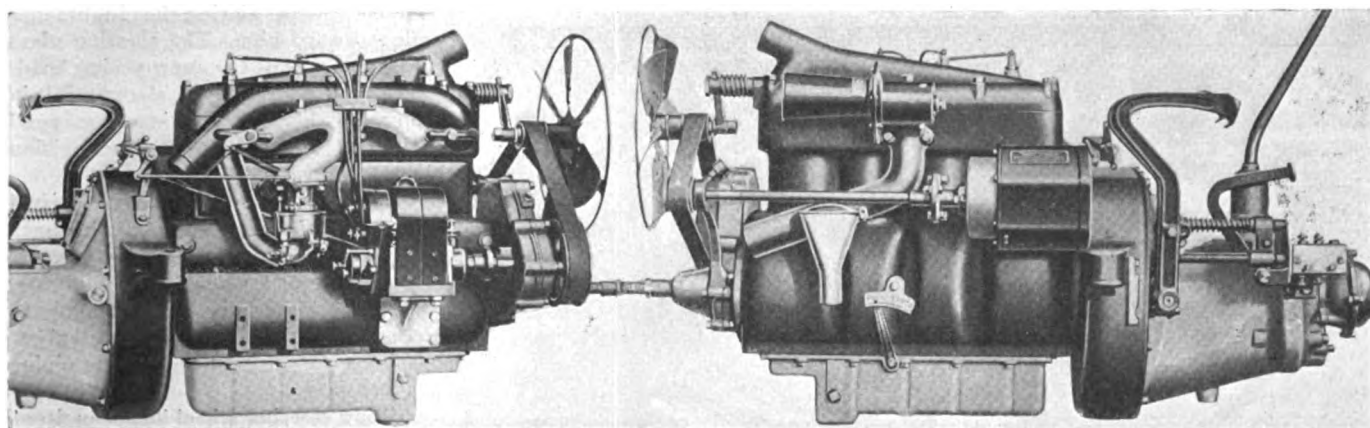
The Simms-Huff motor-generator unit is carried on the right rear side of the engine, and the gearing, which connects with the flywheel for starting, is completely housed.

Drive for the generator shaft is by a belt which runs over three pulleys. The driving pulley is placed on the outward extension of the magneto shaft and passes over the fan pulley and the generator shaft pulley. Tension is kept constant by a spiral spring.

In connection with the electrical system, there is a refinement in the method of connecting wires that have to go on the body with those on the chassis, a junction plug beneath the front compartment floor boards being used. Should it be necessary to take off the body all that has to be done to the wiring is to disconnect the terminal block. Only those wires which have to go up to the electrical control box in the instrument board are on the body. The storage battery is hung amidships of the frame.

There is no change in the drive system. The drive shaft is enclosed within a torsion tube and there is a universal at the front end just back of the three-speed gearbox. The three-quarter floating rear axle incorporates five Hyatt roller bearings. There is one bearing under each wheel, one carrying the pinion and one on either side of the differential unit. Ball thrust bearings are used in conjunction with the Hyatts in the latter three positions. The axle shafts are of nickel steel and the tubes of seamless steel riveted to the malleable iron differential housing.

Springing is continued as in 1915, with three-quarter elliptic rear springs 40 inches long and 32-inch front springs. The rear pair are fixed at the front to transmit the drive and attach to the axle on a rocking seat.



A housing which permits the clutch to run in oil replaces the former yoke construction. Triangular belt drive is used for the electric lighting generator and the fan. Crankshaft bearings are exceptionally large

More Power in Abbott-Detroit

Eight-cylinder Motor Has Bore Increased $\frac{1}{4}$ -inch to $3\frac{1}{4}$

Raking Windshield and Foreign Lines Mark New Body



The new body has excellent lines in which there is a distinct foreign touch. Note the raking windshield

WITH a strong touch of the foreign in its body and an increase in the power of its eight-cylinder motor, the 1916 Abbott-Detroit, now built by the Consolidated Car Co., Detroit, is offered at \$1,950. The rather sharply sloping hood, the raking windshield and the consistent lines of the body proper combine to produce a decidedly pleasing impression.

Equipment is unusually complete, some of the special items being a motometer, power tire pump, extension lamp, aisleway lamp and a master-key and lock system providing one key for the tire lock and other locks on the car. The wheelbase is 121 inches, and $35 \times 4\frac{1}{2}$ -inch tires are used, the rear tires being non-skids.

Several mechanical changes have been made and chief among them is the increase in the bore of the Herschell-Spillman V-type eight from 3 to $3\frac{1}{4}$ inches, the stroke remaining at 5 inches.

The motor follows the same general lines as before, with the increase in bore practically the only change of importance. The cylinder blocks, arranged at 90 degrees on the two-piece aluminum crankcase, are offset from one another by the length of the connecting-rod bearing so that the two rods of opposite cylinders attach side by side to the bearing. Three main bearings support the crankshaft, and the camshaft, with sixteen integral cams, also has three bearings.

Driven by spiral gear at the front is

the centrifugal water pump, a double pump providing an active circulation. There are four water outlet connections

ABBOTT-DETROIT SPECIFICATIONS

Price	\$1,950
Make motor.....	Herschell-Spillman
Number of cylinders.....	Eight
Shape	L-head
How cast.....	2 blocks
Bore	$3\frac{1}{4}$
Stroke	5
S. A. E. rating.....	33.8
Ignition	Remy
Carbureter	Duplex
Starting-lighting	Auto-Lite
Clutch	Disk
Gearset	3-speed
Wheelbase	121
Tires	$35 \times 4\frac{1}{2}$
Wheels	Wood
Steering	Left
Control	Center
Type rear axle.....	Spiral bevel

Equipment: One-man top, windshield, power tire pump, Motometer, electric meter, gasoline and oil gauges, extension lamp, aisleway lamp, speedometer, tire locks, license holder, tire carrier, electric horn, tools.

to each of the water outlet manifolds, these being at the upper edge of the castings, thus taking the water off from the highest and hottest part of the cylinders.

A constant feed of oil under pressure is maintained on the main bearings and

is regulated by a valve which discharges the excess onto the spiral gears at the front.

Chassis differences over the model 8-44 are few. The springs are longer by 1 inch and somewhat straighter, giving better riding and less strain upon the springs. The springs are underslung, permitting the joints to be hung low and the perches are swiveled on the axle.

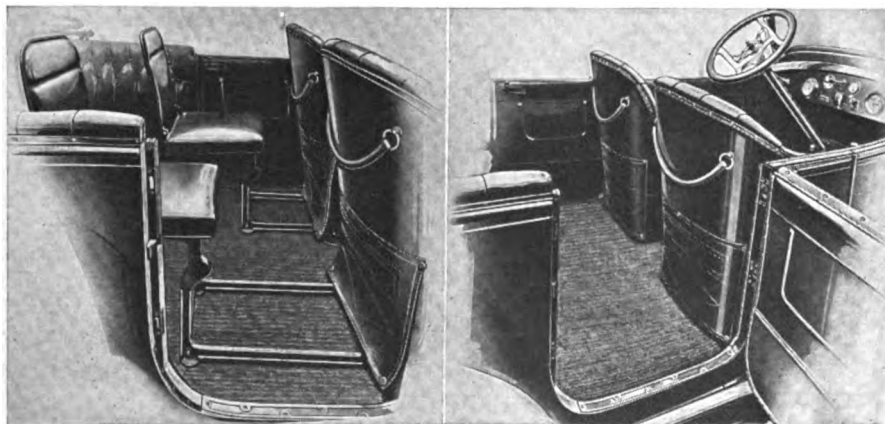
A three-speed gearset and multiple-disk clutch with ball throwout are employed. The floating rear axle is of the same design as heretofore, but instead of straight bevel gears spiral bevels are fitted. Chrome-vanadium steel shafts have been adopted and chrome-nickel steel gears.

The main features of the new body design in addition to the sloping lines are the individual front seats and the new type of concealed auxiliary seats. The front seats are entirely separate with an aisle between them. A folding seat has been worked out which slides under the front seat out of view and is hidden by a leather flap. They are adjustable as to position. The Consolidated concern thinks so much of these new auxiliary chairs that it has applied for patents, it is said. Upholstery is in enamelled leather with the inner body trimmed with a vertical roll and the tops of the doors with a double metallic Spanish roll, so called.

The windshield slopes backward from bottom to top, making it possible, it is said, for the driver to see the road ahead when cars with glaring headlights are coming toward him. The slanting glass reflects the rays of the approaching headlights downward. It is also useful in eliminating back draft, insuring good ventilation, and acts as a storm-vision shield.

The gasoline tank has been shifted from under the front seat to the back of the chassis, and feed is by Stewart vacuum system. Should the tank get out of order there is a hand pump to force fuel to the carburetor. A rubber covering over the copper gasoline piping cushions jars.

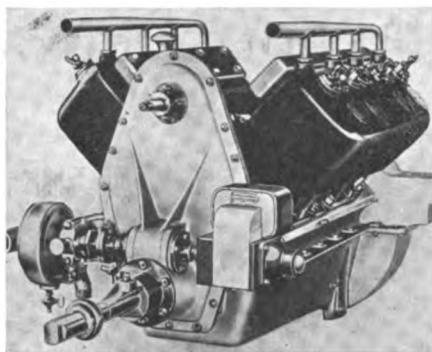
A tilting steering wheel has been fitted, not so much to facilitate getting into the drive seat as to make it easy to move about and turn around in getting



A new folding seat is used, which disappears into the back of the front seat and is hidden by leather flap when not in use

from the front seat into the back of the car through the aisleway between the front seats. The wheel hinges at the column and may be swung above or below the post. A latch holds it in driving position, so that it cannot be swung on its hinge by accident.

In fitting a new type of top, a special feature has been incorporated in that the entire back portion can be rolled up out of the way, making the top really a sunshade with free air circulation all around when desired. This is a particularly desirable arrangement in hot weather.



The new Abbott-Detroit 8-80 motor in which the bore has been increased to $3\frac{3}{4}$ from 3 inches

Dealers Avoid Program Ad Solicitors

Philadelphia Association Members Refer Them All to the Ad Committee for Approval

PHILADELPHIA, July 19—A rule established by the Philadelphia Automobile Trade Association provides that no member of the association is allowed to place an advertisement of any kind except in newspapers and magazines without the sanction of the advertising committee. This rule was printed and neatly framed and is hung in the office of every member of the association. When a solicitor calls seeking an ad his attention is called to this rule and he is referred to the secretary's office. On applying there he is given a copy of the following form letter with request that he has the answers to the questions filled in by the proper parties and returned to the secretary's office:

Name of Publication.....
Date of Publication.....
Circulation,
Object of Publication.....
Method of Circulation.....
Price per page.....
Do you pay commission for soliciting advertising?

As is well known, many of the advertising schemes are sold to solicitors for a lump sum and they benefit by all they can make out of it beyond this price, while the parties who are claimed to be the beneficiaries get nothing except what they received for the privilege of selling the ads.

The request to fill out the statement usually blocks the fakes. The others fill the statement and it is then submitted to the committee members, who carefully consider it, and if in their opinion the medium is a good one and likely to bring results then a sanction is granted, while on the other hand if they think that it is not of a class that warrants the paying out of good money the sanction is refused.

The sanction is in form of a letter to the members stating that the advertising committee has granted sanction for them to advertise in such a medium if they

desire, but that it is not obligatory on them to do so. By living up to these rules the members of the Philadelphia Automobile Trade Association have saved hundreds of dollars that would have been thrown away in useless advertising. The man with the club is disarmed, as the member shows him that it is not he that will not take the ad, but the committee will not allow it and he is helpless in the matter.

Pittsburgh to Have Speedway

PITTSBURGH, July 17—Pittsburgh is going to have a speedway. The moving spirit therein is J. Numa Jordy, who hails from Florida and is general manager and fiscal agent of the Pittsburgh Speedway Association. The officers of the association, which is going ahead full speed, are: President, F. J. Kress, who by the way is also president of the F. J. Kress Box Co., a large manufacturing concern, and also of the Pittsburgh Commercial Club; vice-presidents, J. Howard Fry, vice-president of the H. C. Fry Cut Glass Co., Rochester, Pa., and R. D. Ward, general manager of the Ward Baking Co., New York and Pitts-

burgh; treasurer, Joseph R. Robinson, president of the Braddock Laundry Co. These with Joseph B. Callahan, western Pennsylvania manager, Security Mutual Life Insurance Co.; Dick Briney, president of the Mutual Laundry Co.; Joseph J. Carr, a well-known real estate man; W. J. Phillips, president of the Phillips & McLaren Co., and Dr. Adolph L. Lewin, of the Pennsylvania Savings Bank and the Pittsburgh Central Board of Education, constitute the board of directors.

The speedway will be $2\frac{1}{2}$ miles long and from 70 to 90 feet wide with a graduated curve from 3 degrees in the straightaway to 19 degrees at the turns. In the infield, which will contain 160 acres, there will be an eighteen-hole golf course, and tennis courts. The grandstand will have a seating capacity of 150,000 people. There will also be a polo field, gun club and bridle path.

The association has three sites under option. All of these are within a radius of 14 miles of Pittsburgh, and any of them will be easily reached by railroad, trolley car and macadam roads.

Omaha Show in the Fall

OMAHA, July 19—Omaha's automobile show is to be held in the fall this year instead of the late winter. This has been definitely decided by the members of the Omaha Automobile Dealers' Association. The exact date has not yet been determined.

Des Moines Track Opens Sunday

DES MOINES, IA., July 19—The Des Moines Speedway, a one-mile board course, is nearing completion. The running surface will be finished by the end of this week. The first track event will be run July 25.

Tent for Indianapolis Show

INDIANAPOLIS, July 19—The Indianapolis Automobile Trade Association will use a tent, 150 x 330 feet, for the automobile show at the State Fair in September.

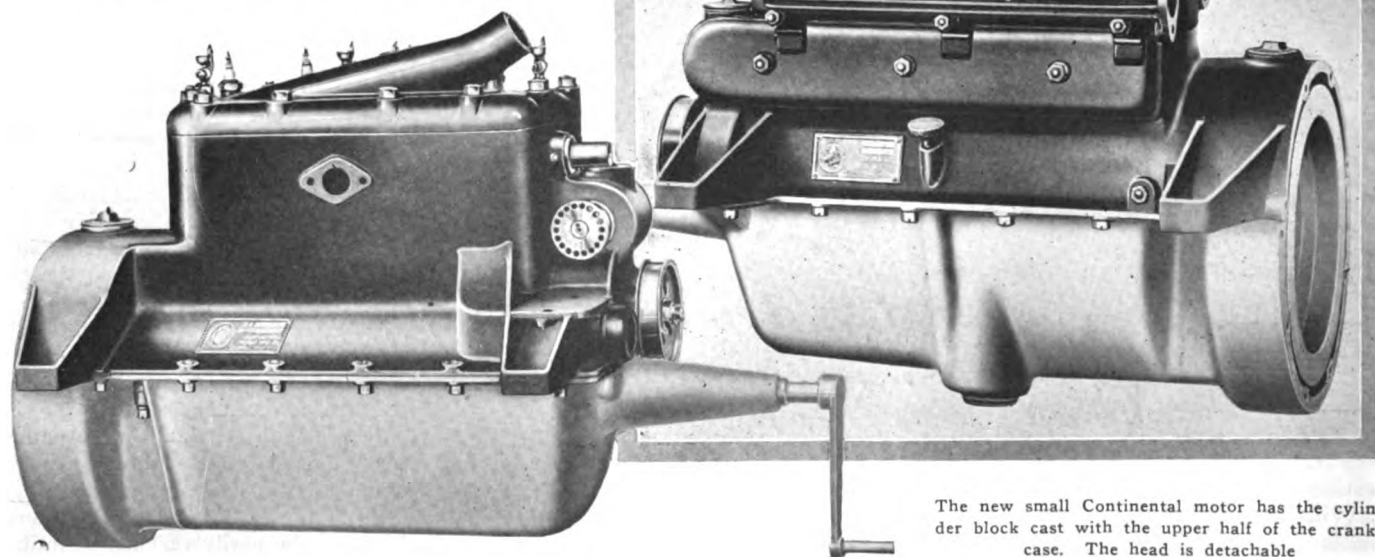
The Men Who Sell the Packard in Denver



Left to right. Upper row—S. E. Norton, Finley L. MacFarland, A. H. Searles and E. F. Casey. Lower row—Bert Williams, R. I. Lemon, John A. McMurtrie and W. J. Haughey

New Continental

Light-weight High-speed Motor Has
Block-cast Cylinders $2\frac{3}{4} \times 4$



The new small Continental motor has the cylinder block cast with the upper half of the crankcase. The head is detachable

LIGHT weight and high speed, and consequently a high output for the piston displacement, are features of a new motor that has been brought out by the Continental Motor Mfg. Co., Detroit. In a general way the design is similar to that of many of the larger Continentals. The four cylinders are block cast integral with the upper half of the crankcase and the cylinder head is removable; the cylinders are $2\frac{3}{4} \times 4$, and while the S. A. E. formula accords but 12.1 horsepower, the makers state that the output at 2,000 r. p. m. is 18 horsepower.

Crankshaft and camshaft are each supported by three bearings; the crankshaft is 2 inches in diameter at the bearings and the camshaft $1\frac{1}{2}$ inches. Lubrication is effected by a combination of force feed and splash, the oil being circulated by a plunger pump driven from an eccentric on the camshaft.

Cooling is by thermo-syphon; the inlet passages are of the horizontal type. The water jackets extend the full length of the cylinders, giving ample cooling. Ignition is by high-tension magneto mounted at the front of the motor and driven by spiral gears from a transverse shaft.

A flange formed integral with the cylinder block provides a seating for the side outlet carbureter, which delivers its mixture without the intervention of an exterior manifold.

Four supporting arms are cast on the crankcase. Provision has been made for unit power plant construction and the motor will take gearsets and clutch units of several standard makes. The lower part of the crankcase is of aluminum and forms the usual oil reservoir and the dip troughs for the connecting rods.

The starting crank assembly is also carried by the aluminum lower section. The fan is of steel, with four blades, and is belt driven. The makers state that the weight of the motor, without accessories, is approximately 270 pounds.

Kelly Truck Line Has Seven Models

Range from 1 Ton to 6 Tons—No Radical Changes but Many Improvements

Seven models are included in the latest line of Kelly trucks, manufactured by the Kelly-Springfield Motor Truck Co., Springfield, O. Capacities and prices are as follows:

K-30, 1-ton, \$2,000; K-31, $1\frac{1}{2}$ -ton, \$2,050; K-35, 2-ton, \$2,750; K-40, $3\frac{1}{2}$ -ton, \$3,400; K-45, 4-ton, \$3,600; K-50, 5-ton, \$4,250, and K-60, 6-ton, \$4,500.

While no radical changes have been made a number of improvements and refinements, mainly of a minor nature, have been incorporated in the new line. Two motors are used. The smaller, the K-30, is used in the 1-, $1\frac{1}{2}$ - and 2-ton models, and the larger, the K-40, is used in the $3\frac{1}{2}$ -, 4-, 5- and 6-ton chassis.

The K-30 motor has cylinders $3\frac{3}{4} \times 5\frac{1}{4}$ and the K-40 motor $4\frac{1}{2} \times 6\frac{1}{2}$. Both motors are designed and manufactured by the Kelly-Springfield company particularly for heavy duty truck service. The smaller motor has block cast cylinders and is the L-head type with enclosed valves. The K-40 cylinders are cast in pairs and are of the T-head type. The same general features apply to both. Ignition is Eisemann high tension, with automatic spark advance. The new Ray-

field G-L 2 water jacketed carbureter is used.

A recent improvement in the motor consists of casting the lower half of the crankcase in two separate pieces, the bottom part forming an oil reservoir of $2\frac{3}{4}$ gallons capacity, covered with a screen which provides a straining area of approximately 2,500 square inches. The oil pump is at the bottom of the reservoir, insuring straining of the oil before it is reused. The crankshaft is hollow, allowing the oil to be forced through to every bearing.

Brakes are of the double internal expanding type on the rear wheels. The brake spider rides free of the rear axle and is amply lubricated. The lower end of the drop forged radius rod is forged to the brake spider and the forward end of the radius rod is held by adjustable radius rod blocks to the end of the jackshaft housing. With this construction the braking strain is thrown upon the radius rod, which is amply able to take care of it.

There are no rigid cross members in the frame, permitting the frame to absorb the strains and shocks to which it is subjected.

The radiator is mounted behind the motor, just in front of the dash, and rides free of the dash on four sets of springs, which cushion all vibration.

War Booming Lima Truck Business

LIMA, O., July 19—The motor truck business in this city is booming as a result of the European war. The Gramm-Bernstein Co., previous to the war in Europe, was turning out 25 trucks a month, while now the plant is producing 100 a month and by September will be disposing of 150.

"Class" Letter Should Go with "Class" Car

Reilly Receives from One of the Trade's Highest-grade Manufacturers a Letter Which Is Not Very High-grade

By Ray W. Sherman

"OH-H-H-H! PHEW-W-W-W!" Charley McGrain, who was due to start on his vacation Saturday noon and let the Reilly ship sink or float without him, squeezed a dribble of sweat off his frontispiece and stretched his Vermont-like frame in pre-vacation agony. He felt it his duty to stick around until the last minute and not do as Tommy Trumbull had done when vacation time arrived last year.

Tommy, last year, was due to leave Saturday noon, but he figured that Saturday forenoon is short so "I'll go Friday night." Then, the expectancy became such a disturber and he felt so useless in the office and so anxious to get away that he quit at 11 o'clock Friday morning—at which every one smiled, because it was such a distinctly Tommy-like trick.

Made Reilly Snort

Reilly, although he now and then gave evidence of being human like other folks, was today doing the unhuman act of laboring diligently on a very hot July day. It actually made Charley uneasy to see the boss eat up the work in such weather.

"Humph!" snorted Reilly. He leaned back in his chair with a jerk, holding a letter in his hand.

If he snorted to get attention his snort was a sorrowful fizzle. Charley merely looked in Reilly's direction, but his mental condition precluded his making even a monosyllabic comment.

"Look at this!" exclaimed the dealer, and he passed the letter to Charley, wherefore the latter had to look at it. Tommy Trumbull got up from his desk and looked also.

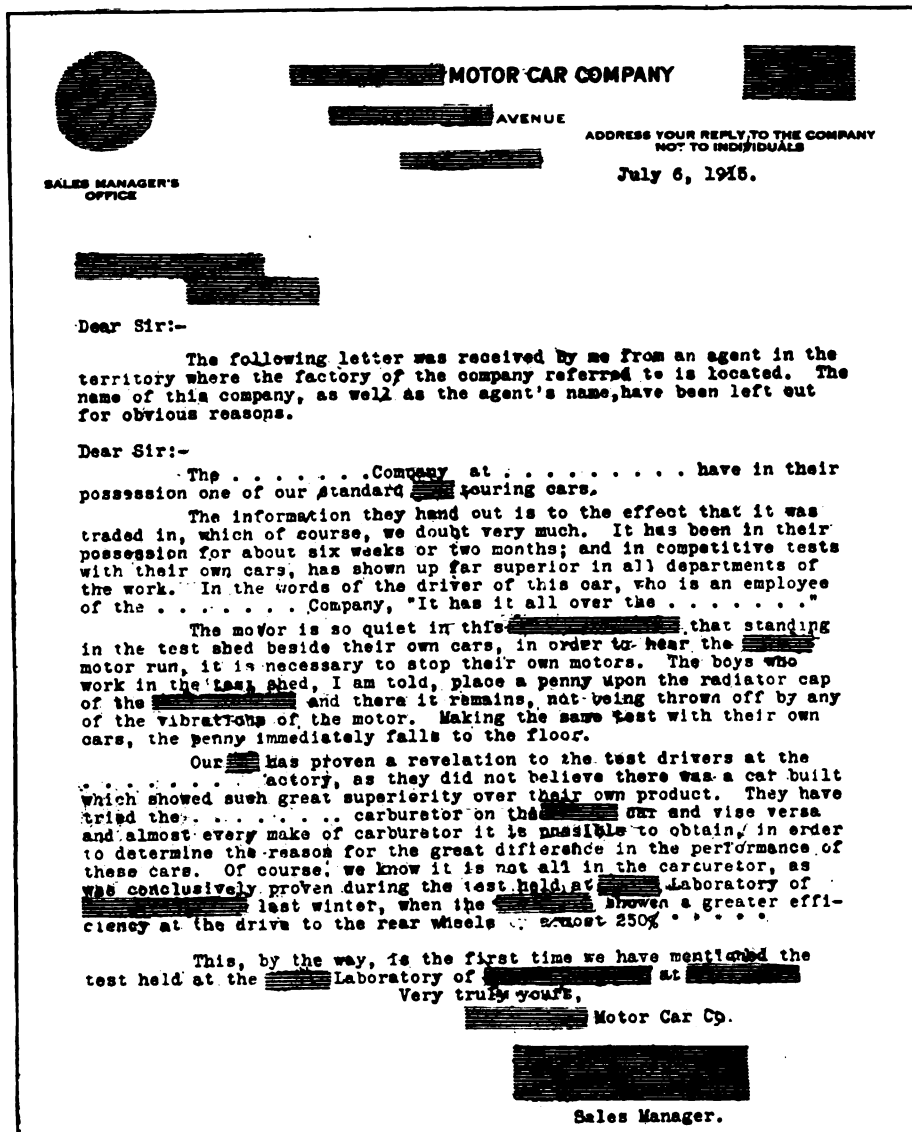
"Pretty punk, eh?" said Charley, the senior salesman.

"I should say!" supplemented Tommy, emphatically.

A Personal Letter

"For a house that's supposed to have class I think that is one of the worst jobs I ever saw!" exclaimed Reilly.

"How do you happen to be getting it?" inquired Charley. The letter was from the factory of one of the highest-class and highest-priced cars in the industry. It was addressed to Reilly as a prospect, and the writer apparently was unaware that Reilly was himself a dealer in cars. The letter was signed by the sales man-



This letter is an actual piece of correspondence sent out by a manufacturer. The lined strips have been put in to cover all clues as to who the writer is

ager of the company and had throughout a personal tone, despite the fact that Reilly and this man were unacquainted.

"Remember some time ago when we sent out a few letters asking for catalogs?" replied the dealer.

"Oh yes!" The whole thing was plain to Charley.

"You know, we sent those on plain stationery, with nothing indicating that I am a dealer in another car."

"Yes."

"Well, they sent the catalog and with it a letter. Since then they have fol-

lowed me up with their letters. Although I suppose it would have been a good thing to let them keep sending their letters in order that I might see what sort of follow-up they had, I didn't want to take any unfair advantage of them—except to get the catalog—so I returned one of the letters with a notation to the effect that I was a dealer myself and that they would gain nothing by continuing to send me their letters.

"Apparently their office system must be defective in some spot, for the letters have continued to come just the same,

and they always write as if they expected I would buy a car some day. That one thing has caused me to speculate as to how their follow-up is handled, for were I running a sales department I certainly would not continue to send my letters to a rival dealer."

"I shouldn't think so!" said Tommy.

"But what causes me to call your attention to the letter this morning is its style, tone and make-up," continued Reilly. "This company, as you know, has built a reputation on prestige and class—along with a few others in the industry—and this letter is miles below the standard of letter you would expect from an organization of that kind."

Letter Had No Class

"Look at it!" Reilly held it up. "While it is a more or less personal letter from the sales manager to me it bears in the upper right corner in a glaring red ink a notation to 'address your reply to the company, not to individuals.' If I am not to address my reply to an individual why am I sent a personal letter?"

"Search me!" yawned Charley.

"Then there is some more red ink over in the left corner where it is labeled 'sales manager's office.' The letterhead is also not well put together. There are a couple of big black trade-marks at opposite ends of the head; these things add an undesirable element of cheapness. The paper is of a good stock but a not very good finish. This poor finish—" Reilly held it to the light—"takes away any good effect that might be secured by the quality of the paper. For a company which goes to great expense and trouble in making its car a leader in the industry there is a sad lack of the same attention in its sales letters. I am not saying anything about the contents of the letter, but only about the looks of the job."

"It is not noticeable except on careful inspection and even then a layman might not see it, but the company's name in the letterhead slants downward on the right hand end as compared with the rest of the head. It indicates lack of attention to details in printing. This should be corrected."

Crowded and Crudely Colored

"Then, the letter is typed or printed in a bad-looking purple color. The type-writing runs away out to the edge of the sheet on each side. It is single-spaced and has an appearance of congestion. It is too crowded. If it couldn't have been made shorter it might better have been made two sheets and been made better. The ordinary prospect would be inclined to throw this letter away the minute he unfolded it, and by making such an initial impression upon the prospect the letter's value has been decreased by about seventy-five per cent."

"The letter is supposedly signed by

The Thrill That Comes Once in a Lifetime.

—By Webster.



the sales manager himself, but if the signature wasn't put on by a stenographer with a rubber stamp I'm greatly mistaken.

"The letter itself isn't written any too well. The first paragraph could have been better. And where the omissions are made further along it would have looked better if the blank spaces had been made dashes instead of dots and had been shorter. The long rows of dots give a scattered effect that does not make a good impression upon a general glance at the whole sheet. And he has spelled 'vice versa' incorrectly. He has it 'vise versa.'

A Weakening Omission

"At the end mention is made of the laboratory test. But it is merely mentioned, and the mentioning of it does not add to the strength of the letter. It causes one to wonder why mention wasn't made of this test before if it is of any value and showed anything of importance."

"It is a good example of how not to write a letter, isn't it?" said Tommy.

"And this company probably would criticize a dealer if he did anything that

was considered not up to the high level that this company plans to maintain in the industry."

"That's very true," replied Reilly. "In all my sales experience I believe I have learned more by watching out for things-not-to-do than I have by copying things-to-do."

Point Out Weak Spots

"I've a good notion to send this back to this factory and tell them what I think of it. I believe they would be glad to know it, if they are anxious to learn points in which they are not quite up to par."

"They are always glad—any manufacturer is—to have weak spots in his car pointed out, for by that means he is able to make the car better. Why, then, shouldn't he want to have any weak spot shown him?"

"He certainly should," replied Reilly with conviction.

Kill the Octopus!

Page 5

Dealer's Legal Status

**Car Buyer Cannot Recover on Warranty Unless He Himself
Has Complied with the Terms of the Warranty and
Has Tendered the Car Back to the Seller.**

By George F. Kaiser

THAT a party purchasing a motor car cannot recover against the dealer who sold him the car, or the manufacturer who made it, for breach of warranty unless he complies with the contract of warranty, and also tenders back the car, was decided in a recent Texas case.

A Ford was bought from a dealer for the agreed price of \$570; \$250 was paid in cash and a note was given for the balance. Thereafter the purchaser brought suit against the dealer and the manufacturer, alleging that there had been a breach of warranty and asking that the contract of purchase be rescinded; that he be allowed back the \$250 which he had paid, and that the note which he had given be canceled.

As the dealer had no authority to represent the manufacturer, and did not even pretend to do so, the case was dismissed as far as the manufacturer was concerned.

It appeared that at the time the dealer sold the car he delivered to the purchaser a certain agreement and warranty which was as follows:

"It is further agreed that this automobile is purchased by me exclusively, subject to the terms and provisions of the warranty hereinafter set forth, which is here made a part of the contract between us, and that it is the only guaranty and warranty, either express or implied, made under this contract or otherwise.

"Manufacturer's Warranty: The manufacturer warrants all such parts as shall under normal use and service appear to it to have been defective in workmanship or material. If the circumstances do not permit that the work shall be executed in the factories or branch shops of the manufacturer, then this warranty is limited to shipment to the purchaser without charge, except for transportation of the part or parts intended to replace those acknowledged by the manufacturer to be defective. The manufacturer cannot, however, accept any responsibility in connection with any of its motor cars when they have been altered outside of its own factories or branch shops.

"It is further understood that the manufacturer makes no warranty whatever regarding pneumatic tires or speedometers. The manufacturer is not responsible to any purchaser of its goods for any undertakings and warranties made by dealers, subdealers selling its products beyond these herein expressed. The

manufacturer makes no warranty of its goods except as stated herein, but desires and expects that customers shall make a thorough examination of its goods before purchasing. This warranty is dependent upon the strict observance of the following clause: The purchaser shall at the time of the purchase have registered his name, address and date of purchase and model of car with the Ford Motor Co. at Detroit, Mich., as the owner of the Ford automobile so purchased, in order to be protected under this warranty."

This warranty was the one given by the manufacturer.

The court held that the case should be decided in favor of the dealer and against the purchaser, as the evidence did not show that the former had signed any warranty or made any representations with regard to the machine, except such as might be implied from the delivery of the above warranty. Having failed to register his name as had been provided in the written warranty, the purchaser was not entitled to recover damages from either the dealer or the manufacturer. (*Simmons vs. Ruggles*, 176 S. W. (Texas) 152.)

HIGHWAY COMMISSIONER HAS CONSIDERABLE POWER

The Tri-City Motor Car Co., Albany, N. Y., asks: One of our truck owners, operating a 3½-ton G. M. C. truck in Otsego county, has been notified by the superintendents of highways in two of the towns to the effect that he would not only be held responsible for any damage done to the highways and bridges but he has also been forbidden to operate the truck at all. Will you kindly advise what the legal status of this action is and what precedent has been set?

Under Chapter 80 of the Laws of New York, 1913, entitled, "An Act to Amend the Highway Law Generally," which became a law March 14, 1913, the commissioner of highways was empowered to make rules and regulations for the protection of any state or county highway, and to prescribe the width of tires to be used on such highways, to prohibit the use of chains or armored tires.

It was further provided that disobedience of any of his regulations should be

punishable by a fine not less than \$10 and not exceeding \$100, to be prosecuted for by the town, county or district superintendent, and paid to the county treasurer to the credit of the fund for the maintenance of such highways in the town where such fine was collected.

In pursuance of the authority conferred by this law, the commissioner of highways promulgated certain amended rules and regulations for the protection of improved state and county highways and governing the operation of traction engines and heavy vehicles thereon. A copy of these rules and regulations may be procured from the Commission of Highways, Albany, care of secretary.

These regulations limit the total weight of vehicles to 14 tons; the weight upon each inch in width of tire to 800 pounds, and the width of vehicles to 90 inches.

There does not seem to have been any legal proceedings instituted by a motor vehicle owner to test out the legality of these regulations, and I do not think the contention that the regulations do not fall within the commissioner's authority, or that Chapter 80 of the Laws of 1913, providing that the commissioner shall make regulations, is unconstitutional would be upheld.

LIMITS LIABILITY OF THE REPAIRMAN

**If He Is Gratuitously Repairing a Car
He Is Blamable Only When Negligent**

THE question of whether or not a dealer must make good any damages which a motor car sustains while he is testing it recently came before the Supreme Court of Alabama.

The owner of the car had acquired it from the dealer in an exchange. After having the car a short time he returned it, claiming that it did not run properly.

The dealer examined the car, tested it and found that the engine raced very rapidly and that the gear wheels were stripped. The dealer thereupon told the owner that if he would procure a new gear it would be put in free of charge. This was done, and while the dealer and his helper were testing the car, a collision occurred, which badly damaged the car. At the owner's request the dealer repaired the damage sustained in the collision, but upon rendering his bill was refused payment by the owner, who claimed that he was responsible.

The court held that in a case of this kind, where a repairman is testing a car which he has gratuitously repaired, he is bound only to stand to pay for damages caused by collisions, etc., when he is guilty of gross neglect or bad faith, but the burden is on the dealer to prove that the accident was not the result of his carelessness or negligence. (*Thomas vs. Hackney*, 68 Southern, 296.)

New Briscoe Bigger Car

Eight-cylinder Motor Added and Four Enlarged—Chassis Takes Either Motor and Three Bodies

SO FAR as newness and variety are concerned, the dealer of the Briscoe Motor Co., Jackson, Mich., has much to offer for the 1916 season, and this despite the fact that the company is building but a single chassis and but two motors. Out of these the dealer can offer:

4-cylinder roadster	\$750
4-cylinder touring car	\$750
4-cylinder coupe	\$1,000
8-cylinder roadster	\$950
8-cylinder touring car	\$950
8-cylinder coupe	\$1,200

And if the customer takes a four and changes his mind, he can have the four motor lifted out and an eight put in at an extra assessment of but \$200, for the motors and bodies are all interchangeable in the same chassis.

The new four-cylinder motor is larger and more powerful than the 1915 motor, having a bore of 3 7/16 inches, whereas the previous motor had a bore of 3 1/8 inches.

No change has been made in the stroke, which is 5 1/8 inches. An important change has been made in separating the gearset from the engine and locating it amidships; the old power plant was a unit with the motor.

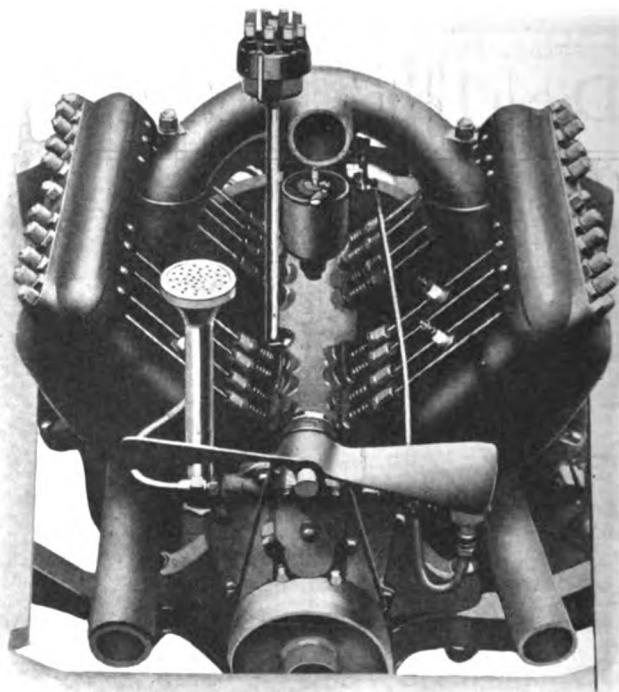
The body has been redesigned and affords 3 inches extra leg room in the tonneau. The spring suspension is new, cantilever springs replacing the former semi-elliptics. The wheelbase has been increased 7 inches and is now 114 inches. The general enlargement of the car calls for larger tires, which accordingly have been brought up from 30 x 3 1/2 to 32 x 3 1/2. Comfort has been enhanced by making the pedals adjustable. The emergency brakes are internal expanding and the service external contracting, instead of double internal.

One of the changes that makes for

improved appearance is the adoption of domed fenders, and these have been attached directly to the body instead of

THE NEW BRISCOE

Price, 4-cyl., 3- and 5-pass....	\$750
Coupe	1,000
8-cyl., extra	200
8-cyl., make of motor	Ferro
How cast	2 blocks
Shape	Head valve
Bore	3
Stroke	3 1/2
S. A. E. rating	28.8
4-cyl., how cast	Block
Shape	L-head
Bore	3 7/16
Stroke	5 1/8
Clutch	Cone
Gearset	3-speed
Wheelbase	114
Tires	32 x 3 1/2
Wheels	Wood
Steering	Left
Control	Center
Make of axle	Salisbury
Type of axle	Floating



Eight-cylinder Ferro motor of the new Briscoe, with valves in heads and enclosed; the single camshaft carries 16 cams

being mounted on brackets attached to the frame.

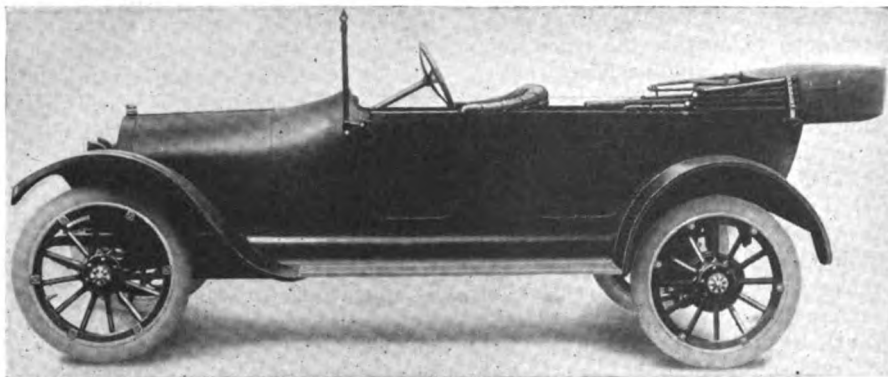
Perhaps the most conspicuous change of all, so far as external appearance is concerned, is the abandonment for two headlights of the single headlight which formerly was built into the radiator. The chief reason for this change was that in some localities the laws demand two headlights.

The eight-cylinder engine used is the Ferro, with overhead valves and cylinders cast in two blocks of four set at 90 degrees; the upper half of the crankcase is cast with the cylinder blocks. The bore is 3 inches and the stroke 3 1/2 inches, which gives an S. A. E. rating of 28.8.

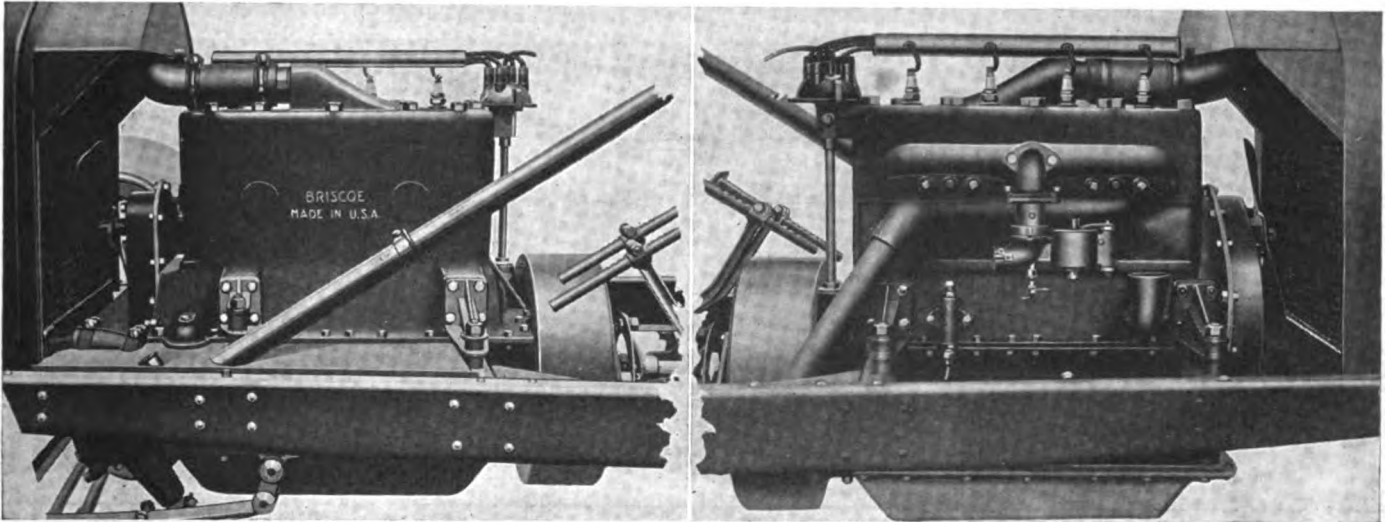
The sixteen valves are actuated by a single camshaft, each valve having its own cam. A neat feature is the use of hot-pressed steel rocker arms, pivoted on ball joints; adjustment is made by the use of knurled nuts projecting through the top of the cylinders. When wear is to be taken up between valve and rocker the lock nut is loosened, the knurled adjustment screw turned the requisite amount and the locking nut tightened.

The cylinder heads are detachable and carry all the valve mechanism. Spark plugs are inserted in the sides of the cylinders, on the inside of the V, just below the cylinder head joint.

The fuel intake and water outlet are ingeniously combined, the water passage surrounding the inner fuel pipe. The connection to the radiator is at the front of the manifold. This arrangement permits hot water to circulate around the incoming gas, raising its temperature and



The touring car, clover-leaf roadster and coupe bodies are mounted on the same chassis, which may be equipped with either the 4- or the 8-cylinder motor



New design is embodied throughout the four-cylinder motor, and the cylinders are larger than those of the previous model. Light pistons and large crankshaft make for smooth running. Much weight has been eliminated

assisting not a little in its vaporization.

Forked design is employed in the connecting rods, one rod of a pair having a yoked end and the other fitting between the arms of the yoke. The bearings are split horizontally to facilitate adjustment.

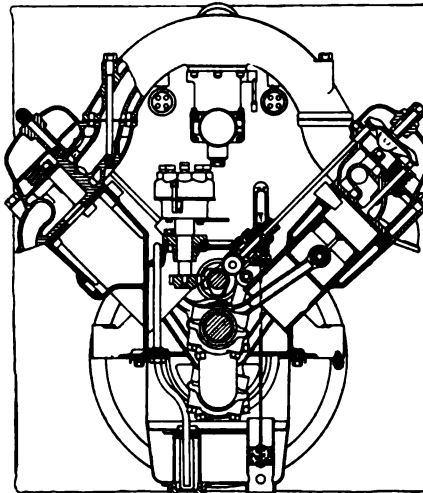
The four-cylinder motor is of new design throughout, having nothing in common with the older model. It has block cast cylinders $3 \frac{7}{16} \times 5 \frac{1}{8}$; the upper half of the crankcase is integral with the cylinder block, the head is detachable and the valves are on the right and completely enclosed. The exterior of the motor is notably smooth and clean. Four point suspension is employed.

The motor is designed to run at fairly high speed, its output being given as 38 horsepower at 1,700 r. p. m. Smooth running is facilitated by the use of light pistons, and the crankshaft, which runs in three bearings, is of large diameter to give rigidity. The upper end of the connecting rod is split and the piston pin clamped in it, taking its bearing in the piston bosses.

The crankshaft mounting is peculiar in that separate brackets are bolted to the bottom of that part of the crankcase which is integral with the cylinders, the brackets performing the same function as the usual integral brackets, but being lighter in weight. A pressed steel cover acts as the lower half of the crankcase, a separate section at the bottom forming an oil reservoir.

Like the eight, the water circulation of the four is by gravity, with a 2-inch water outlet connection integral with the cylinder head. The cooling fan drive is through two small steel friction disks mounted on the fan shaft. The drive is noiseless and is enclosed in a pressed steel front plate. The fan is of the aeroplane type.

Ignition is by Atwater Kent distributor mounted vertically. A motor-generator is mounted on the left side of the gearcase, charging the battery and supplying



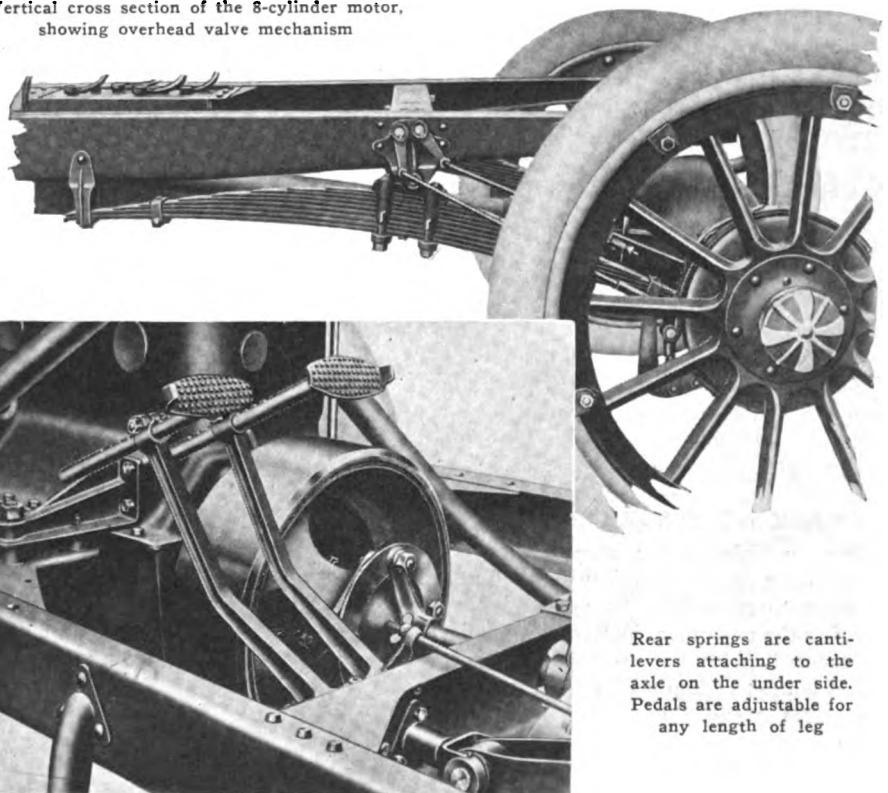
Vertical cross section of the 8-cylinder motor, showing overhead valve mechanism

the lamps at six volts; a twelve-volt current is used for starting. Lubrication is by splash, with constantly circulating oil which passes through a sight feed on the dash.

The transmission mechanism is simple. The gearcase is in reality a unit with the torsion tube surrounding the propellor shaft, the front of the gearcase having two arms which hinge to a cross member; this provides for movement due to inequalities of the road. The rear axle is a floating Salisbury.

Kill the Octopus!

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Rear springs are cantilevers attaching to the axle on the under side. Pedals are adjustable for any length of leg

WIDE-AWAKE MERCHANDISING

SELLING MAY BE HELPED BY MAPS

They Get the Eye of Tourists and May Lead to Sale of Accessories

Touring maps of the territory in the vicinity of the garage, framed and hung on the walls, are greatly appreciated by tourists and result indirectly in increased business.

When a tourist stops for gasoline he looks at the maps and studies his itinerary. He asks the garageman some questions about the maps. He is pleased at the thoughtfulness of the garageman and is in a better buying frame of mind. Also, the conversation thus started may lead to the sale of something if the garageman is really alive to the possibilities of his accessory business.

As a result of such a small thing, he is more likely to remember the garage and to recommend it to other tourists because it is more vividly in his mind. and next time he comes to this town, if he ever does, he is more likely to patronize that garage than any other one simply because he remembers it.—P. W. Cowle, City Garage, Conneaut, O.

CHECK UP ONCE A WEEK

To prevent misunderstandings over the purchase of goods a weekly invoice may be used. The purpose of the invoice is to show the customer what he has purchased so that if there are any errors he will note them and have them corrected immediately instead of waiting until the end of the month when he receives his statement, at which time he has probably forgotten the details.

MARK ACCESSORY PRICES

Every article in the accessory store should have the price plainly marked upon it so there will be no possibility of charging the customer the wrong amount.

Especially where a large stock is carried it is next to impossible to remember the prices of all the articles sold, and when a salesman does not know he is liable to guess rather than spend time looking it up. Sometimes he puts the

price too low and the firm is cheated; other times his guess is too high and the customer suffers.

The greatest danger is that the customer will find out that the salesman often guesses, and when he does his trade is lost, for he knows that although this policy may give him some bargains he will be overcharged on other purchases.

MORE AIR DURING DOG DAYS

Hot, stuffy showrooms are poor aids to car sales, yet the Road Man has been in several recently. It is difficult to hold a prospect's attention when he is mopping his brow and wishing he was outside.

Proper ventilation should be provided for when the showroom is built; there should be ducts for delivering cool air and carrying off the hot; and if the building has only one story there should be a large air space between the ceiling and the roof to insulate the showroom from the burning sun.

Even an existing showroom may be improved by installing air ducts, transoms and electric fans or blowers.

ASKS TOURISTS TO BOOST

That the recommendation of tourists is the best way to obtain transient business is the belief of John Cooper, proprietor of the City Garage, Warren, O. He aims to give his transients service that they will appreciate, and when a motorist leaves he is handed a card and requested to tell others if he is pleased with the garage.

To induce the motorist to keep the card for a time at least the distances to the principal towns and cities in the vicinity are printed on the back. The face of the card calls attention to the features of the garage: that it is a strictly fireproof building, 60 x 145 feet; that there are no posts; that batteries are charged; that gasoline is sold at the curb, and that a full line of accessories and supplies is kept.

"Don't be a weak sister," as one sales manager has aptly expressed it. Shifty eyes, unkempt hair, a dirty collar, and shallow arguments are poor aids in making sales.

Hotel Service

When the Car Owner Asks Excessive Service Tell Him This Story

By Robert Foster

Every time I go to a hotel I wonder why it is I pay for considerable service without a kick, whereas the men who buy cars from me expect as service things they would not dream of asking for in other situations.

When I go to a hotel what is it that I expect as service?

I expect, for one thing, that the clerk, the bell hop and the other attendants will be prompt and courteous. I do not expect the bell hop to meet me at the railroad station and escort me to the hotel, but I do expect him to meet me at the door of the hotel and carry my grips to my room. I also expect him to open the windows if it is summer, or turn on the steam if it is winter, light the lights if it is night, and do all those little things. For all this I am also willing to pay him, and about all I expect from him as absolutely unpaid service is a high degree of courtesy.

I expect promptness and courtesy from the telephone girl, but I expect to pay for every telephone call I make. I demand courtesy and promptness from the waiters, for which I pay in proportion to their possession of these desirable qualities.

The clerk must answer all my questions agreeably and promptly. The elevator service must be good. The place must be clean. My mail must be intelligently handled. If a telegram comes I expect it to reach me without delay. If I want a drink before retiring I pay for it, and if it is delivered in my room I pay the boy for bringing it up.

I expect to pay for nearly everything except courtesy and promptness. These things constitute hotel service. But my car owners expect me to do actual labor for them and give them parts and supplies for which I have to pay good money.

Why should service in my place of business be different from that in a hotel? And why should the car owner expect a difference?

HELP TRADE LOSE GAME REPUTATION

It Is up to Dealers and Salesmen to Add Standing to Their Calling

Many people still have the idea that selling automobiles is a game and not a business. When you say "automobile salesman" to them they picture an irresponsible individual addicted to joy-riding and other closely allied pleasures.

It is up to the dealer to do all he can to dispel this impression, for it hurts his business.

Because of this idea there are many prospects who refuse to look upon the salesman as a person engaged in a legitimate business and entitled to the treatment that any business man should receive. By their manner they show that they think the salesman is not to be taken very seriously. This attitude not only prevents the salesman often from doing the best that is in him but it results in all sorts of abuses.

Recently a salesman complained that he wasted a great deal of time and often missed making sales just because his prospects would not tell the truth. These people were all highly reputable citizens, and under any other circumstances their word was as good as their bond, but when it came to the purchase of an automobile they could not be trusted.

The result was that time was wasted in appointments that were not kept, in unnecessary phone calls and demonstrations. These difficulties will not be overcome until the general public is fully educated to the fact that automobile salesmen are not in the door-to-door, book-agent class, but that their work is on just as high a plane as any other line of endeavor, and that success in this line requires high intelligence and persistent effort; that it is a profession, a science the study of which knows no limit.

PUT THE CAP ON IF IT FITS YOU

"When the cap fits, wear it." Too many dealers take it for granted when a criticism is made that it applies to everyone except themselves. That's human. They feel sorry for the other garage-men because their places are not attractive, because their accessories are poorly displayed, because their business methods are careless, but rarely does it dawn on them that maybe they should feel sorry for themselves.

As the old Quaker said: "Mandy, all the world is queer except me and thee—and sometimes I think thee's a bit queer."

There are very few dealers who ever take the trouble to open both eyes wide and take a good hard, critical look at

A Check on All Goods That Are Ordered

Req. No. 450
Date June 17
Articles—
3 34x4 carriage
1 34x4 tire

Chg. to James O. Smith
Job No.
Entered

Req. No. 450. Newark, Ohio June 17, 1915
Name Woodmen Fur & Rubber Co. Akron, O.
When properly countersigned by A. P. Hess Automobile Co., please deliver the articles specified below, and charge to the account of A. P. Hess Automobile Company.
All goods purchased must be upon written order of A. P. Hess Automobile Co. If by telephone, the party delivering the goods must call at office for written order. Make invoice for all goods, giving number of requisition. Price for each item must be extended on invoice.
A. P. HESS AUTOMOBILE CO.
Countersigned A. P. Hess
5 34x4 carriage
1 34x4 tire

This requisition provides a simple check on all goods ordered, and has been used successfully for some time by the Hess Automobile Co., Newark, O. Whenever any goods are ordered, it is done by making out one of these requisitions. On the stub at the left are noted the articles ordered and whom they are for; in this case these articles were ordered for James A. Smith. The requisition number, 450, identifies the two parts

all the details of their own business. These are the fellows who say there is no money in the garage business. There is money in it but there are too many men at the present time that know how to extract it.

APPOINT A DRIVING TEACHER

Disastrous results often follow the policy of allowing the salesman to teach driving to the people to whom he sells cars, because the salesman does not always give as complete a course of instructions in the handling of the car as is desirable.

First, because he may not be sufficiently conversant with the care and operation of the car—there are many

salesmen who know little about this.

Second, because there is grave danger of the salesman slighting a pupil, especially if the latter is backward. When a salesman is busy it often is a question of neglecting a pupil or neglecting sales, and naturally it is the former that suffers.

For the reasons above given it is best to have a separate man to instruct new owners; otherwise accidents will occur, the cars will be abused, and the owners will not get full service from their cars.

Kill the Octopus!

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DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith and this will be followed by others which have been especially designed for the purpose of assisting the dealer in bringing his merchandise to the attention of possible purchasers. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



The Hercules Instrument Co., Mt. Vernon, N. Y., gives this counter display fixture with an order for a dozen ammeters. Any battery may be used, and the battery holds the card upright. It tells the story of the device at a glance and should help boost sales of the little cell tester.

The RETAIL NEWS

The Retail News Classified

THE Retail News is this week classified in seven divisions: East, South, Middle West, Northwest, Southwest, Mountain States and Pacific Coast. The map shows what states are included in each division. This is done to enable a dealer or garageman in any section to locate readily the news pertaining to his section. The divisions in some instances are purely arbitrary; for instance, Iowa may class herself with the Middle West and Maryland with the South, but the arrangement as shown seemed best for grouping purposes. The classification will be continued. Also, readers of Motor World are requested to send in any news that may exist in their sections.

EAST

The Hartford Suspension Co., Jersey City, N. J., has opened a New York city branch at 1846 Broadway. A service station is also maintained there.

William J. Tickner & Sons, Baltimore, are about to take possession of a new garage which has storage accommodations for 154 cars. In connection with it are a paint and machine shop. The entire space is on one floor. The company's garage in 1912 would hold but 30 cars and last year the capacity was increased to 70.

M. V. DeForeest, Sharon, Pa., has purchased property on South Main street between State and Washington streets and will erect a modern brick building, the first floor of which will be used as a salesroom for the Ford and Buick and the two upper floors of which will contain ten apartments. The property has a front of 108 feet and is 140 feet deep.

Daniel Holleran, Elmira, N. Y., former county sealer, has secured the agency for the Safety Ford Starter and will devote his time to marketing it in this section.

The Ithaca Security Co. is building a garage in Ithaca, N. Y., on West State street. It will cost \$40,000 and it will be completed about October 1. It will have a frontage of 97 feet on West State street, a depth of 132 feet, a width at the rear of 132 feet, will be of steel and concrete, and the front section will be two stories in height. It will have more than 25,000 feet of floor.

The Lawrence Auto Co., New Castle,

Pa., is enlarging its garage and equipment on South Mercer street. The company handles the Buick and has added the G. M. C. truck.

Clarence J. Snyder, Elmira, N. Y., who recently opened the Central Garage on West Maine street, has added the Holler agency to his business.

Ralph Jernberg and Fortice E. Wheeler, Worcester, Mass., have opened salesrooms at 18 Wellington street, where they will handle the Grant. Jernberg formerly was a salesman for J. C. Harvey, the Haynes dealer in Worcester, and

Pa., is enlarging its garage and equipment on South Mercer street. The company handles the Buick and has added the G. M. C. truck.

The Cadillac Motor Car Co., Newark, N. J., will build a three-story sales building and service station, 60 x 118 feet, with an extension of 64 x 117 feet, at 534-36 Broad street. It will cost \$60,000.

The 135th Street Garage Corp., New York city, plans to erect a three-story fireproof garage on the south side of West 135th street, 115 feet east of Broadway. The company now has an office at 160 Broadway. The building will cost \$75,000.



Wheeler was formerly connected with the H. E. Waite Co., the Grant dealer in Boston.

The Albright Auto Co., Allentown, Pa., has opened a new fireproof garage, 45 x 145, on 14th street between Turner and Chew streets. M. R. and C. A. Albright are the proprietors. The company handles the Reo.

The Ideal Garage has been opened in Bradford, Pa., at 11-17 East Corydon street by L. J. Harris and John M. C. Ambly. The building is three stories in height, 72 x 100 feet, and will accommodate 100 cars. The company has the agency for the Peerless, Velie and National. It purchased what was the Ideal Garage at 27 South avenue and is using this building as a service station and accessory store.

Eugene L. Caton and W. A. Stratton have formed the Paige Motor Co. of Worcester, in Worcester, Mass., and will handle that car. Caton was formerly identified with the Cadillac and Hudson in Worcester.

Thomas A. Patterson is to build a three-story fireproof garage in New York city at 614-18 West 56th street. It will have a frontage of 75 feet and a depth of 120½ and will cost \$35,000.

M. Dwyer, Pittsburgh, has let a contract for a two-story fireproof garage

Lance and Amy Nicholson and Thomas Stoll, Buffalo, have incorporated as Nicholson & Stoll, Inc., with a capitalization of \$1,800. They will handle cars and accessories.

PACIFIC COAST

The Northwest Motor Car Co., Seattle, has moved into more commodious quarters at 1708 Broadway; the company distributes the Chandler.

T. G. Young has been appointed distributor of the Form-a-truck and is now appointing agents in western states. Headquarters have been established in Seattle. The Form-a-truck makers fit the Ford chassis with an additional and considerably longer frame and an entirely new rear end. W. E. Farr has been appointed sales manager.

Howard Trost and Harold Hall have opened a new garage and repairshop at 258 West Santa Clara street, San Jose, Cal.

The Laughlin Garage, Oakdale, Cal., is now known as the Highway Garage. D. O. Miller has purchased a half interest in the establishment and the firm is now known as Laughlin & Miller. In addition to accessories and a general garage business the agency for the Regal is also located in the Highway Garage.

MOUNTAIN STATES

Barnhart & Danner, King distributor in Salt Lake City, has moved into a new building at Fourth South and West Temple streets and will operate under the name of the Lincoln Garage.

The Grady Motor Car Co., Salt Lake City, has added the Cole agency to its business.

The Monarch Motor Co., Salt Lake City, has been sold by Elmer E. Darling to H. E. Davis and Thomas K. Mott. The business will be continued as heretofore.

SOUTH

The Quick Tire Service has been incorporated in Louisville, Ky. The incorporators are Robert C. Kinkead, Owen D. Duffin and Robert F. Vaughan.

C. A. Benjamin, formerly sales manager of the automobile department of the American Locomotive Co. and later with the Fiat, has been made New York state distributor of the Apperson. Benjamin is at present in Syracuse and will probably make his headquarters there. Before being associated with the Alco he was the Packard dealer in Syracuse.

W. J. Durning, formerly connected with the Goodrich Rubber Co., Akron, has opened a vulcanizing and tire repair shop at 138 North Third street, Louisville, Ky. He contemplates taking an agency.

John Boyd Kennedy Co. has opened a garage and repairshop at Jackson street and Broadway, Louisville, Ky.

Frazier & Miller has opened a repairshop at 601 East Broadway, Louisville, Ky. The company also carries a complete line of accessories.

SOUTHWEST

The St. Louis Auto Exchange plans to make \$11,000 worth of improvements on its building, 2942 Olive street. The improvements include one of the largest car salesrooms in the city.

William Scriber, who has been connected with the trade in St. Louis for some time, is forming a company to handle the King.

The Motor Car Repair and Supply Co., Missouri avenue and Pestalozzi street, St. Louis, has taken the agency for the Elco 30.

H. G. Hurd, St. Louis Buick distributor, has opened a branch in East St. Louis, Ill., at State and 10th streets.

The Alco Tire & Vulcanizing Co. has opened a new repairshop at Jefferson avenue and Locust street, St. Louis.

The Weber Implement Co., St. Louis distributor of the Hupmobile and Mitchell, has opened a new salesroom for used cars at 18th and Pine streets. The building is two stories high and 100 x 109 feet.

John F. Stuford, manager of the Phoenix Auto Supply Co., St. Louis, has been appointed branch manager of the Miller Rubber Co. in a territory covering southern Illinois, Missouri and Arkansas.

The Kansas Double Tread Tire Construction Co. has been formed in Hutchinson, Kan., by A. R. and A. M. Bradfield. They are located at 205 South Maine street and will rebuild worn tires.

E. L. Jones, distributor in Kansas City, Co., of the Master carburetor, has moved

his business from 1803 to 1527 Grand avenue.

E. G. Cresse has opened salesrooms for the Allen in Osawatomie, Kan.

Grant & Oakes, Hutchinson, Kan., has enlarged the Studebaker Garage, which is at 123-125 Sherman street East; an 80-foot addition was built at the rear.

NORTHWEST

The Iowa Auto & Supply Co., Des Moines, plans improvements to its plant costing \$10,000; 9,000 feet of floor space will be added and an elevator installed. Earl Manbeck, manager of city sales for this company, recently won a \$300 chest of silver in a salesman's contest conducted by the Chalmers Motor Car Co.

The Leachman-Claiborne Co., Des Moines, will move this fall from 8th and Mulberry streets to new and larger quarters at 11th and Locust streets. More than \$30,000 will be spent in remodeling and equipping the new building.

The Tri-State Auto Co., Inter-State and Moon dealer in Minneapolis, has opened new salesrooms at 1225 Hennepin avenue to accommodate its city trade.

The General Auto Co., Clinton, Ia., has opened for business at Fifth avenue and First street. It handles electric starters and accessories and is operating a repairshop. The members of the company are Earl D. Schott and Wesley P. Upton.

The Hawkeye Motor Sales Co., Des Moines, has secured the Princess agency. Charles M. Friedburg is manager.

Arend Bros., 1922 University avenue, St. Paul, who have been wagon makers for 28 years, have entered the motor car trade. They have the Denby truck agency.

J. R. Histed has been made general manager of the Twin City Motor Car Co., 163 West Sixth street, St. Paul, succeeding G. N. Michaud. He formerly was Case branch manager in New York. The company is a Hudson distributor.

Bingham & Norton have opened a garage in St. Paul at Grand avenue and Victoria street, succeeding the Central Automobile Co. The building, which cost \$25,000, is 100 x 150 feet and is equipped with modern machinery. The company handles the Reo.

H. O. Chapman, Rockford, Ill., is about to open up in Dubuque, Ia., as a representative of the Packard. He will make his headquarters in the Kerper-Gipe Garage at Fourth and Main streets.

W. A. McCauley, who has been connected with the Mears Auto Co., Des Moines, for two years, has been placed in charge of the newly organized Holman-Stevens Auto Co. in Cedar Rapids, Ia. It distributes the King and Moon.

George E. Parrish, who formerly represented the Cole in South America and later in Des Moines, has taken over the Cole distribution in Des Moines. He has been connected with the Apperson in Omaha for the past season but the Apperson branch in Des Moines has been moved to Omaha.

The Apperson Motor Co. of Omaha has been formed in that Nebraska city as a factory branch of the Apperson Bros. Automobile Co., Kokomo, Ind. Joseph G. Roberts is manager and J. H. DeJong sales manager. A field force of eight men will be maintained.

The Jones & Oppen Co. has opened a garage and salesroom at 2043-45 Farnam street, Omaha. It will handle the Reo in Iowa and northern Nebraska.

MIDDLE WEST

The Western Reserve Rubber Co. has been formed in Akron, O., to deal in tires. The capitalization is \$10,000 and the incorporators are George E. Hall, Arthur F. Witten, F. M. Hall, M. Chamberlain and W. C. Johnson.

The Auto Electric Equipment Co. has been organized in Cleveland by S. L. Blackburn, R. B. Gargett, P. A. White, F. M. White, T. M. Madden and J. E. Klumpf. The capitalization is \$10,000.

H. D. Hutchinson, who has been in charge of the motor department of the General Electric Co. in Chicago, has been made manager of the same department for the Gibson Co., Indianapolis.

G. C. Hobson, one of the best known car salesmen in Indiana, has joined the staff of the Cole Sales Co., Indianapolis.

The Indiana Oxygen Co. has been formed in Indianapolis by G. D. Armstrong, former superintendent of the Prest-O-Lite Co.; L. L. Sinclair, of the same company, and W. L. and J. R. Brant. A welding department is a feature of the business.

Fred C. Wood, well known in motor car circles in Cleveland, has been made wholesale distributor of the Oakland in 28 counties in southern Ohio, the western half of West Virginia, all of Kentucky, southern Indiana and part of Tennessee and Virginia. He will make his headquarters in Cincinnati.

Harley R. Shelby and **B. J. Hinckley**, Decatur, Mich., have purchased the garage business of Leo A. Rose.

L. J. Robinson, who until recently was secretary-treasurer of the Bemb-Robinson Co., distributor of the Hudson, has formed the L. J. Robinson Co. and is now distributor of the Chalmers in Michigan. Where the new company will open its salesrooms has not yet been decided.

The Detroit Oakland branch, 1237 Woodward avenue, which has been taken over by the Standard Auto Co., the new distributor of the Oakland, is now being maintained exclusively as a service station and salesroom for used cars. The sale of the new cars is carried on at the Standard company's headquarters, 850 Woodward avenue.

The DeArmond Motor Car Co., Hamilton, O., has opened a new garage at 317 Market street. Clyde DeArmond is the proprietor.

Lyall & Maroney, Peoria, Ill., have dissolved partnership, Maroney retiring. Lyall will continue to handle the Dodge, Chicago electric and Electric Ballance truck.

Zoller & Zoller, Peoria, Ill., have taken the Chalmers agency. A new sales and service station has just been completed at 2401 South Adams street.

S. W. Babb, Jacksonville, Ill., Cadillac and Dodge dealer, has removed his salesroom to the garage of the Jacksonville Automobile Co. on East State street. The building which he formerly occupied has been sold.

Howard Zahn, Buick dealer in Jacksonville, Ill., has moved into a new building. The ground floor will be utilized as a display and salesroom, while the upper floor will be devoted to repair work.

Kill the Octopus!

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MOTOR WORLD

PUBLISHED EVERY WEDNESDAY

The Motor World Publishing Company

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Kill the Octopus!

THE THIRTEENTH instalment of Motor World's Campaign for Greater Profits.

IF the garageman and dealer are to get a profit out of the sale of accessories and supplies they must combat the mail order house if the mail order house is competing with them in their territory. A great many dealers and garagemen say they do not sell accessories and supplies because the cut-price competition of the mail order octopus makes it unprofitable for them to do so.

The extent to which the mail order house is getting the trade in certain sections was told in a story in Motor World last week. In this story nearly 100 dealers and garagemen told the percentage of trade they estimated the catalog houses were getting.

Two Plans of Attack

If the octopus is to be fought there must be a plan of campaign. Motor World has learned of two that are being used. One appears on page 5 this week; the other will appear on page 5 next week. Both plans are different.

That which appears this week was developed as a result of Motor World's Campaign for Greater Profits. Mail order competition in the Wisconsin town in which the Meiklejohns do business had been keen; the octopus was getting all the trade. But when the Campaign for Greater Profits was opened April 28 these two

men believed in the principles laid down and made a start—regardless of the octopus.

They began to display their accessories. They told their car owning customers that the Meiklejohn garage sold accessories, something the car owners did not seem to have known before. And how could they when the stock was hidden out of sight?

They Won Easily

Before they knew what they had done they found they were licking the octopus. They discovered that the big element in merchandising is service, and that the distant mail order house cannot give service. If a Meiklejohn spark plug goes bad the customer can go to Meiklejohn. If a mail order spark plug goes bad the customer can practically go to h——! Of course, he may get a new plug in the end, but it means a lot of trouble—and he probably will say h—— before he finally gets it.

So the Meiklejohns kept plugging and pushing. They are making money—and getting the list price. Read their story and their advice. If every dealer and garageman in the country took the advice of the Meiklejohns the octopus would be an awfully sick fish!

A Clean-Up Contest

THE plan of the San Francisco Garage Owners Protective Association to give prizes to members for the cleanest looking garage and the garage that makes the greatest improvement within a given time is one that is worthy of adoption by any similar organization. The more an association can do for its members the greater is its value and excuse for existence.

One of the biggest works to be done is rendering garage premises more clean, business-like and up-to-date. Too many of them are in the undesirable class. The proprietors, loaded down with the work that has come through the rapid growth of the industry, have let things slide. They should be waked up! One of the most logical awakeners is the association, and this suggestion is made to every organization worker.

Meet Your Customers

YOU have certain things to sell and from their sale comes the profit which you expect from your business. The men who make this profit possible are your customers. And you are the contact point between the goods and the customer. You are the clearing house in which goods are exchanged for money.

If you are lacking in this capacity you are hurting yourself. You are not getting the profit which is possible. A representative of Motor World, this

paper's Road Man, finds in many cases that there is no one to greet those who enter the garage or sales-room. It applies to the large and the small, the good and the bad.

The customer will come again to the place where he is courteously treated. He is repelled by a neglect of attention. If you are running only a one-man business you should arrange in some way to have every one who enters the door met as a gentleman should be met. He will like the treatment and you will like the result.

A Neglected Phase

WOULD Tiffany's send a yellow handbill to a Fifth avenue customer? Decidedly not, and there is no need to go into the why not of the situation.

Should the manufacturer of a high-grade car send out a poorly done letter to a prospect? The same answer applies. Yet this is what happened, as is told in the Reilly story this week. The letter in question was sent out by one of the leading manufacturers of cars. The car sells for a high price and has class, prestige and an atmosphere of aristocracy. Its letters should fit in with this atmosphere just as much as should the flower vases in the corners of the limousines. Evidently not enough attention has been paid to this detail of the business. And it is a most important detail.

Also, this manufacturer was once notified that the letters were going to a wrong address, yet they continue to come. There is need for investigation if results are to be assured from this sales work.

Two Tiny Gears

THE necessity for the dealer and the garageman, and more particularly the accredited service station for a car, carrying a COMPLETE stock of repair parts was very forcibly brought to the attention of a Motor World representative on a recent trip through part of New Jersey. Without warning his motor commenced to spit and fire back into the carbureter and brief examination revealed that the timer distributor gears had become stripped.

These are two tiny gears, easily getatable, and there is no need of emphasizing their importance. Yet the service station in the city in which the accident happened was not prepared to replace them. There were no gears in stock, and the manager of the station expressed his unwillingness to release a mechanic from a job to get the gears from the factory in New York.

In consequence, the Motor World man found it necessary to make a trip to the metropolis to get the gears. This required three hours, or twice as long as was required to replace the gears. And although it was suggested that the service station manager obtain an additional set of gears at the same time for his own stock, he did not agree to the suggestion.

The fact that the gears were not in stock gave a bad impression of the kind of service that is rendered at this particular service station. The manager's unwillingness to get them immediately, or to make an effort to do so, left a worse impression. But the worst impression of all was left by the refusal of the manager to take the opportunity afforded to obtain an additional set of gears in order that he might be prepared for future emergencies.

It is a fact that the majority of service stations are amply and well prepared to take care of the big troubles that come to the tourist; and it is a fact of equal importance that many of them are not prepared to supply quickly some of the smaller parts which seldom give trouble but which are of vital importance in the running of a car.

Hotel Service

WHEN a guest enters a hotel he expects certain things as service, but for anything which costs the hotel anything he expects to pay. And he also pays for a great many things that are not within this classification. He has been educated to this standard of service.

When a man buys a car his conception of service at once becomes vastly different from his idea of hotel service. He wants all he can get. In the Wide-Awake Merchandising Department this week is a short story on Hotel Service that may be used on these want-too-much customers. Other similar stories will appear later.

Get the Names Right

THE diversity of corporate names in the motor car industry is perhaps responsible for errors which creep into the nomenclature of manufacturers as it is used by persons other than themselves. But the man who is in and a part of the industry should take pains to get right the names of those in the industry.

The company that makes the Chalmers is the Chalmers Motor Co., and the company that builds the Packard is the Packard Motor Car Co. Only by making oneself familiar with the names is it possible to avoid saying Chalmers Motor Car Co. or Packard Motor Co.

If your name is J. W. Jones and a letter for you is marked J. C. Jones, it affects your opinion of the writer. The same applies when you yourself are inaccurate.

Kill the Octopus!

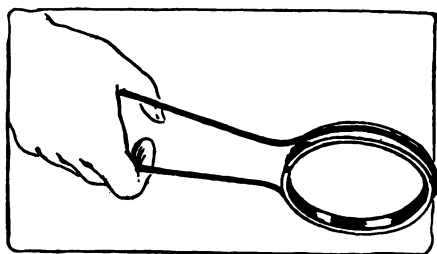
Page 5

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Piston Ring Tool Made of Wire (No. 105)

Probably the simplest tool for inserting piston rings is made of a piece of stiff iron wire bent in the shape shown. This is slipped over piston and ring, the ring being compressed by drawing the



(No. 105)

A piece of good stout springy wire can be made into a useful piston ring tool

handles together. The tool can be used with one hand, leaving the other hand free to guide the piston or push it up into the cylinder.—W. S. Reynolds, Middletown, Conn.

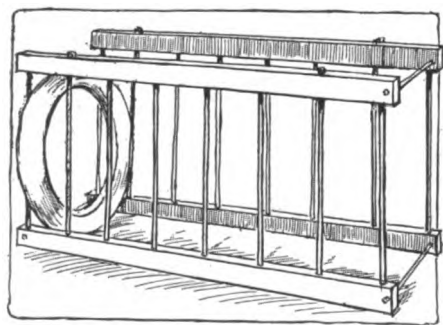
Chicken Wire for Partitions (No. 106)

Accessory stock room bins can best be divided by means of ordinary chicken wire. It is cheaper than a wooden partition, easier to install, and takes up less room. How the wire is used is clearly shown in the illustration.—Justus & Parker Co., Columbus, O.

Elevator Warning Signal (No. 107)

In railroad parlance, a "tickler" is a wire stretched across the tracks approaching a bridge and having a number of wires or short ropes hanging from it to warn brakemen to duck and save their heads.

The same idea can easily be applied to elevators. Short ropes, or preferably short lengths of chain, can be attached



(No. 112)

This convenient tire rack is made of 2 x 4's and ordinary 1/4-inch round iron

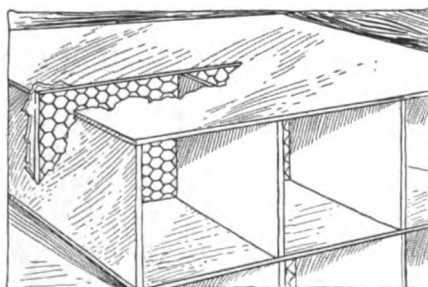
to the front edge so that as the elevator descends anyone looking into the shaft will be warned of its approach in time to draw back.—Elton Garage, Waterbury, Conn.

Ventilating the Repair Pit (No. 108)

In warm weather a repair pit often becomes a place almost unbearable to work in, especially if there is work to be done in a hurry. A great improvement can be brought about by putting an electric fan in the pit to keep the air in circulation. Not only does it make the men more comfortable, but it permits more energetic and rapid work and is well worth while on this account. The fan becomes not only a convenience and a comfort, but a real "safety first" device if there is gasoline vapor in the garage, for the vapor, being heavier than air, naturally settles in the pit and is breathed by the men; if there is enough of it there is danger of its becoming ignited if an open flame of any kind is used.

Screening Elevator Weights (No. 109)

Where elevators are counterweighted, the shaft in which the weight moves



(No. 106)

Chicken wire makes good partitions and takes up practically no room in bins

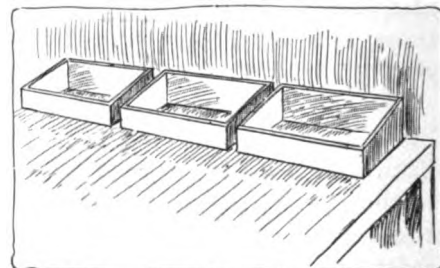
should be screened for approximately 6 feet from the bottom. This will prevent accidents to workmen who might find occasion to enter the elevator shaft and will also prevent damage to parts that might otherwise drop down the shaft and fall under the descending weight.—Elton Garage, Waterbury, Conn.

Opening the Garage Doors (No. 110)

Counterweights can be used to open garage doors from the office or from the rear, thus making it unnecessary for a workman to leave his job. For the purpose a catch can be made out of odds and ends, as shown. The upper member, fastened to the door jamb, is made heavy so that its weight eliminates the need for a spring.—Maltbie Garage, Waterbury, Conn.

Bench Boxes for Small Parts (No. 111)

Small boxes at the back of a workbench form excellent receptacles for small tools and nuts and bolts. These can be made in the shop. A simpler method is to obtain a number of empty



(No. 111)

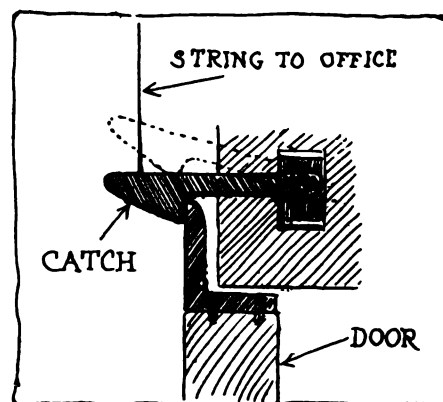
Cigar or other small boxes on the back of the bench are excellent for small parts

cigar boxes, which are always available. The sides should be planed down slightly to make the front lower than the back and thus make access easy.—John B. Dutting, Middletown, Conn.

Tire Rack of Wood and Iron (No. 112)

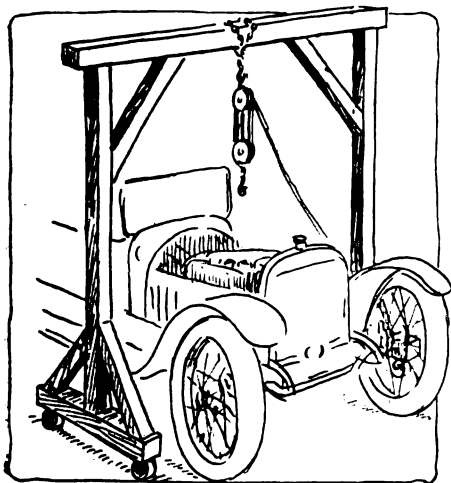
An excellent tire rack can be made of four 2 x 4's of any suitable length and a number of ordinary 1/4-inch round iron rods.

The 2 x 4's are drilled half through at regular intervals, corresponding to the width of a tire, and the rods, cut to the proper length, inserted. Four of the rods are left long and the holes drilled clear through the 2 x 4's. The ends of the rods are threaded for standard size nuts, to hold the rack together. Washers should be interposed between the nuts and the wood to prevent the nuts from sinking in too deeply and allowing the nuts to loosen.—E. V. Pratt, Mutual Garage, Torrington, Conn.



(No. 110)

Latch used in opening garage door from office. Pulling string releases catch



(No. 113)

This hoist straddles the car for lifting the motor or gearset out or in

Hoist for Lifting Motors

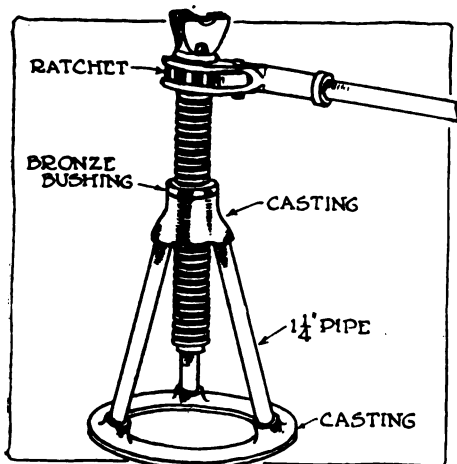
(No. 113)

A simple hoist for lifting motors out of chassis can be made of 3 x 3-inch wooden bars as illustrated. This should be wide enough to clear the fenders and, as it is equipped with castors, it can be moved over the engine hood and the motor lifted out bodily. The weight of a motor makes it imperative that the apparatus be firmly braced as shown.—Tucker Garage, Middletown, Conn.

Cutting Slots in Valve Stems

(No. 114)

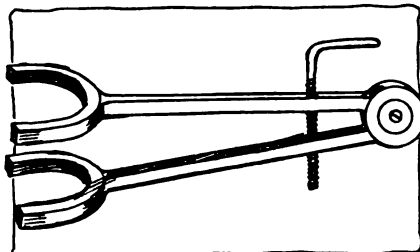
Valves for old cars often can be made more cheaply than they can be bought. The valve forgings can be purchased in the rough from a drop forging manufacturer and the valves turned up on a lathe. The most difficult part of the work is in cutting the slot for the spring seat key and this can very readily be done in a drill press if a small jig for guiding the drill is made. The jig consists of a piece of steel bored out to slip over the valve stem. Three holes are drilled in one end to act subsequently as drill guides. There is a set screw to clamp the jig firmly and a stop screw at one end to limit the distance the jig will slip over the stem of the valve.



(No. 116)

Because of its broad base this jack will stand up steadily under its load

In using the jig the first step is to adjust the stop screw so that the guide holes are at the proper point on the stem. Then the jig is clamped and the three holes drilled; the set screw is loosened and the jig moved back so that two of the jig holes are over the spaces between the holes just drilled in the stem. Two holes are drilled at this point, and then the jig is removed. The five holes thus drilled so close together produce a satisfactory slot for the valve spring key.—August W. Larson, repair-shop, Brooklyn, N. Y.



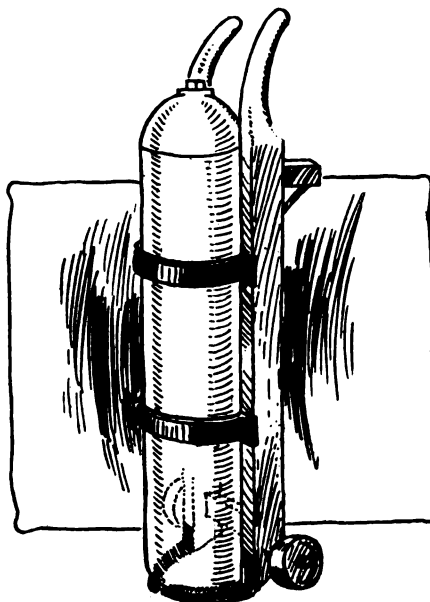
(No. 115)

This tool holds the valve spring compressed, leaving the workman's hands free

Valve Spring Compressing Tool

(No. 115)

An excellent type of valve remover is shown in the accompanying illustration. Its construction is so simple as to require no explanation. Since the compressing of the valve spring is actually done by the screw, both hands are free for work.—Clyde Ward, foreman, Frank P. Beck, Marion, O.



(No. 117)

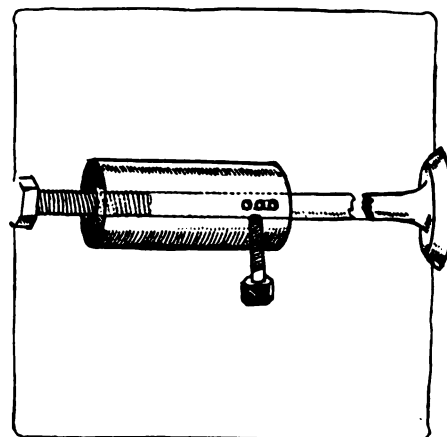
The oxygen tank is attached to the truck and stands on supports when in use

Steady Standing Screw Jacks

(No. 116)

A screw jack that is not likely to topple over because of its broad base is illustrated herewith. The base and the support for the screw itself are an iron casting and the two are connected by three legs made of 1 1/4-inch pipe screwed into place.

The jack is provided with a ratchet and a short handle into which may be



(No. 114)

Jig that guides the drill in making holes in valve stems for the key slots

inserted a bar of any length desired.—J. O. Steele, Fourth-Chestnut Auto Repair Co., Columbus, O.

Hand Truck for Oxygen Tank

(No. 117)

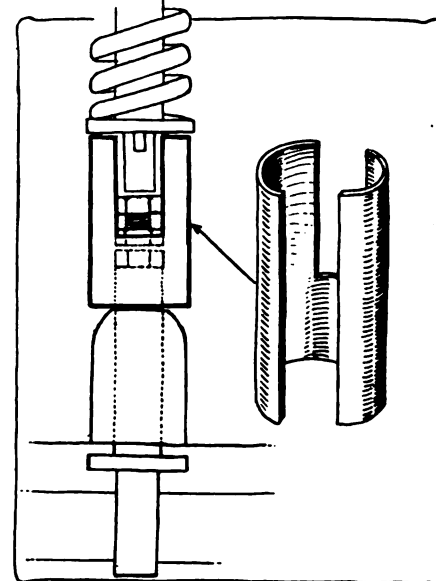
A hand truck for transporting an oxygen tank about the shop is here illustrated. It resembles the ordinary hand truck except that it is smaller. There are two projections at the bottom which not only support the tank when vertical, but also serve to balance the truck.

The tank is held in place by two steel bands and can be removed when empty by pulling it up.—V. L. Warren, Ashtabula Garage, Ashtabula, O.

One-piece Valve Remover

(No. 118)

The simplest sort of valve spring remover is the single piece of metal illustrated. Its form is clearly shown, and it is put in place between the top of the push rod guide and the valve spring seat when the valve is open. Then a half turn of the motor closes the valve and leaves the key free.—Clyde Ward, foreman, Frank P. Beck, Marion, O.



(No. 118)

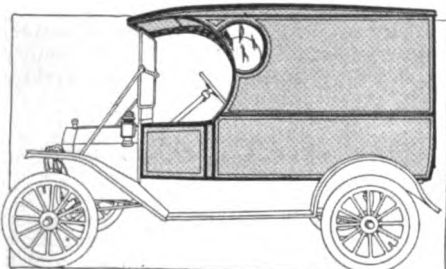
Easily made appliance that pushes valve spring away from key when motor is turned



ACCESSORIES & SUPPLIES

Delivery Bodies for Fords

Delivery bodies in many styles, all of which will fit any model T Ford chassis, are manufactured by the Commercial Auto Body Co., St. Louis. In the case of a body for the 1915 Ford the price of the body includes a special windshield, in exchange for the original windshield. With most of the bodies side curtains are furnished. All bodies are painted and trimmed, ready for use; sub-sills have brackets that fit the car frame exactly and there are furnished windshield braces, front floorboards, tail lamp bracket and everything necessary for service. The latest of the many styles is an all-steel panel body, 56 inches long, 42 inches wide and 54 inches high, fitted with double doors with large glass in upper panel, half-moon bevel glass at



Typical Commercial Auto Body Co.'s panel body mounted on Ford chassis

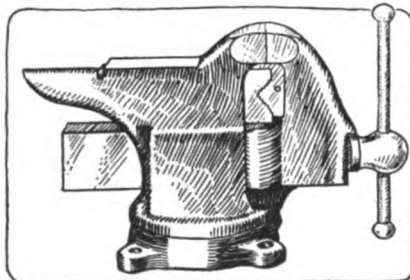
sides of seat, slatted roof covered with heavy oil duck, and upholstered back and cushion. Color, blood red with black mouldings; other colors optional. Price, \$120. Other stock patterns run from a little open box to attach to the rear of the roadster body, at \$13.50, to a panel body at \$125.

Angier's Spare Wheel Equipment

A spare wheel and the equipment necessary to make it interchangeable with any of the wheels of a Ford car is offered by Angier's, Streator, Ill. The outfit consists of a spare wood wheel, 30 x 3, 24 collared steel nuts, 24 inside milled nuts, 25 cap or blind nuts, speedometer attachment to hold gear on hub independent of wheel, 4 drilled flanges, brace wrench and 48 wood screws.

The original wheels are fitted with the new flanges and when this work has been completed any wheel of the five can be interchanged with any other wheel. The makers state it is possible to change a wheel in one minute after jacking up the car.

Price, \$14; dealers, 25 per cent.



Rock Island combination vise, pipe vise and anvil for garages and repairshops

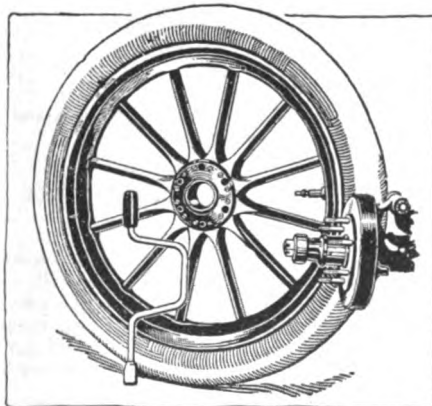
Cyclone Carbon Remover

The Cyclone Co., 58 Locust street, Greenwich, Conn., manufactures a carbon remover in liquid form which, when sprayed into the motor while the cylinders are warm, is said to loosen the deposits so that they are easily blown out through the exhaust when the motor is started. A pint is sufficient for four or five cleanings. The liquid is harmless.

Price, \$1 per pint; dealers, 40 per cent.

Rock Island Autovise

A plain, substantial vise that is well suited to the needs of the repairman is the Autovise, manufactured by the Rock Island Mfg. Co., Rock Island, Ill. The stationary jaw is extended backward in the form of an anvil that is considerably heavier than most vise anvils. Below the ordinary vise jaws a pair of pipe jaws are fitted; these are for holding rods and pipe. Two sizes are made—3-inch, takes pipe $\frac{1}{8}$ to $1\frac{1}{2}$ -inch, weighs 42 pounds, price, \$10; pipe jaws \$1.30 extra. $3\frac{1}{2}$ -inch, takes pipe up to 2 inches, weighs 65 pounds, price, \$14; pipe jaws \$1.50 extra. The same tool is made in



Angier's spare wheel equipment for Fords includes flanges and all small parts

a swivel model, the vise being mounted in a king-bolt on a bench plate. Prices, \$13 and \$16.

Kelco Storage Battery

In the Kelco storage battery for starting-lighting service, manufactured by the Storage Battery Appliance Co., Baltimore, Md., the plates are designed to increase efficiency by so placing the ribs which make up the grid that they carry the current directly to the post from which it is carried off. The grid is made up of an outer frame carrying the terminal post at the top near one corner, the horizontal bars and the converging ribs which cross the horizontal ribs and, with them, form the spaces in which the

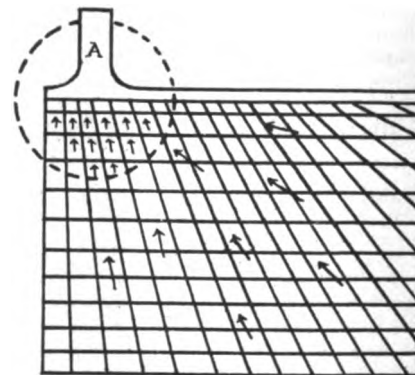
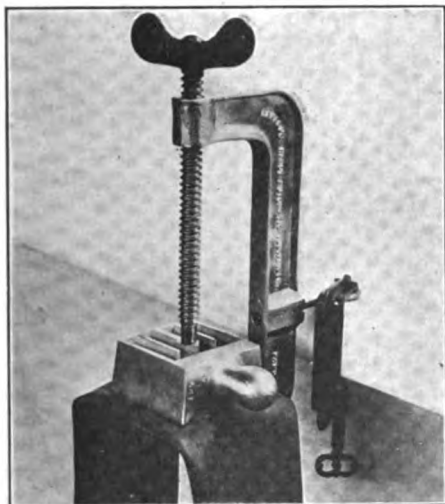


Diagram showing the grid plan and current flow in Kelco battery plate

active material is pasted. The idea is that the current, coming from all parts of the plate, concentrates at the outlet and therefore more metal is required there to carry it efficiently; hence the converging ribs.

Platinum Rivets for Contacts

Iridio-platinum rivets for magneto contacts are manufactured in all sizes by the R. & H. Platinum Works, 100 William street, New York. Nickel shanks are welded to the platinum alloy heads, or alloy heads are welded to screws and rivets, the construction being such that every bit of the valuable metal is used in real work and none is wasted by being used merely for the support of the working part. Standard sizes are carried in stock; rivets in standard sizes have heads from .156 inch diameter and .062 inch thick down to .07 inch diameter and .029 inch thick. The makers state that the prices charged are a slight advance on the market price of the metal.



Lawall's vulcanizer equipment includes a swivel clamp for bench work

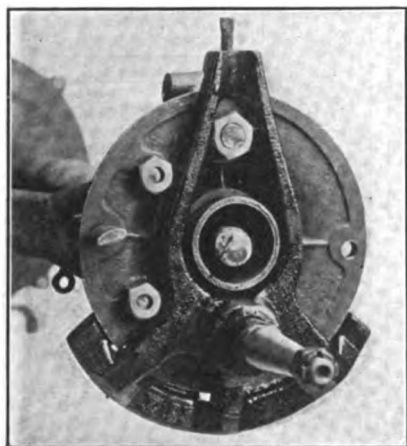
Ekern's Emergency Rear Axle Stub

A Ford that has a broken axle drive shaft can be towed in on its own four wheels by the use of the attachment shown in the accompanying illustration, manufactured by Ekern Bros., Flan-dreau, S. D. A frame carrying a stub axle is hooked to the housing flange at the bottom and held in place by tightening a set screw at the top. The broken end of the shaft is removed from the wheel hub and the wheel slipped on the stub of the attachment. The car can then be towed in as well as if the axle was intact. The weight is 6 pounds.

Price, \$5; dealers, 20 per cent.

Stewart Tire Pump

Several improvements have been made in the Stewart single-cylinder tire pump, manufactured by the Stewart-Warner Speedometer Corp., Chicago. The piston is fitted with one large ring and a unit of five small rings. Rigidity of attachment is ensured by providing four bolt holes in the flanged base. The shifter arm is a separate part and can be set at any angle required by the space available for the installation of the pump. A brass coil connects the outlet valve



Ekern's emergency rear axle device for Fords. Wheel goes on a tapered stud

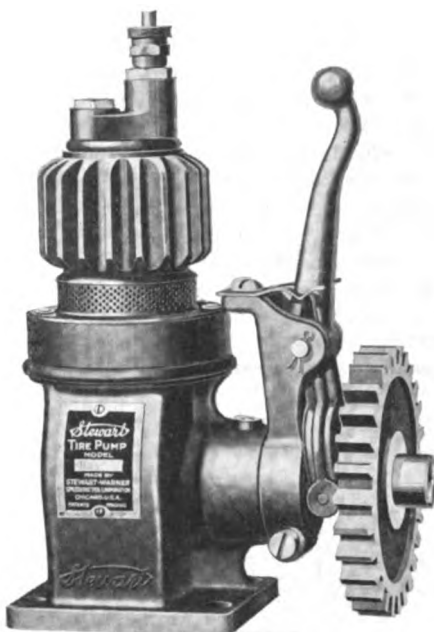
with the hose and acts as a radiator, preventing the sending of hot air to the tire in case the operator should neglect lubrication for a long period.

The pump is furnished complete with fittings for attachment to any standard car on the market. Price, \$15.

Superior Fenders for Ford Cars

Rear fenders designed especially for Ford commercial cars are manufactured by the Superior Lamp Mfg. Co., 136 West 52nd street, New York, and are supplied in pairs, complete with irons and ready to attach to any kind of a delivery body on a Ford chassis. The design is the same as that of the latest type Ford fenders and the material used is heavy sheet steel. The finish is three coats of baked enamel. An inside splash apron is furnished.

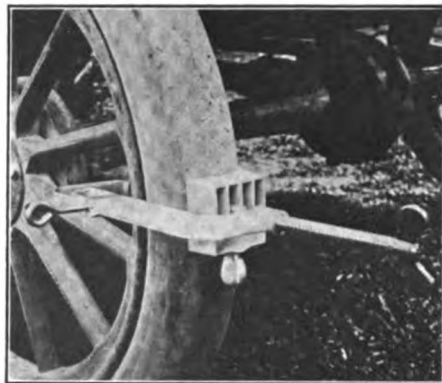
Price, \$9.90 per pair; dealers, \$5.50 per pair.



Stewart tire pump, the piston of which is packed with a new multiple ring

Lawall's Handy Vulcanizer

A vulcanizer of the tool-box type that can be used for both tube and casing work is manufactured by L. C. Lawall, 41 North Eighth street, Richmond, Ind. An important feature of the device, which is of the type in which gasoline in a reservoir is ignited and allowed to burn out, is that the fuel container has a deep and shallow section; the fuel in the shallow section burns for about five minutes, this being the time required to bring the vulcanizer to the proper heat; by that time the fuel runs dry in the shallow part and the deeper section, nearer the mouth, burns alone, being just sufficient to maintain the proper temperature for 15 minutes. Part of the outfit is a swivel clamp by means of which the vulcanizer can be held against the tire for casing work or on a tube



Lawall's handy vulcanizer clamped to a casing for a roadside repair

for patching. The complete outfit consists of the vulcanizer proper, made of aluminum, a swivel clamp with small bench clamp, tube plate, repair materials, and scissors. It all goes into a neat canvas roll.

Price, \$3.50.

More-Lite Headlight Bulbs

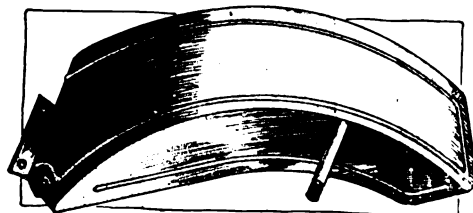
The More-Lite Lamp Co., Longacre building, Broadway and 47th street, New York, is placing on the market a new type of headlamp bulb. The bulb differs from others of its kind in that the filament becomes incandescent in a combination of inert gases rather than in a partial vacuum as in the ordinary tungsten bulb. In consequence, a greater degree of incandescence is possible, and it is claimed that the illumination is better.

At the same time current is materially reduced, the new bulb consuming approximately $\frac{1}{2}$ watt per candle power as against $\frac{3}{4}$ or $\frac{7}{8}$ watts with the ordinary bulb. The bulbs are made in two voltages, 6-7 and 12-14, and in two candlepowers, 21-23 for the 6-7 volt bulb, and 25-35 for the 12-14 volt bulb. The bulbs retail at \$1.50 per pair.

Orolo Carbon Remover

The Orolo Mfg. Co., Louisville, Ky., is manufacturing a new carbon remover and engine cleaner called Orolo, a liquid which, when heated, is converted into gases that destroy the asphaltum contained in carbon, leaving only a black powder. This powder is blown from the exhaust when the motor is started. It is said that it contains no acid, is not injurious to human flesh and cannot injure metal of any kind.

Price, \$2.50 per can.



Superior fenders are designed especially for use on Ford delivery cars

Garage and Shop for Trucks and Pleasure Cars

Convenient Layout for Housing and Maintenance of Mixed Fleet of Electric and Gasoline Trucks and Pleasure Cars

Editor Motor World:

We are going to build a garage and we wish accommodations for about 10 cars, both gasoline and electric. The building would be constructed within our factory yard, where we have plenty of room and within reach of our own steam, water and electric service. We contemplate a one-story concrete structure.

Wichita, Kan. Chas. Dalrymple.

Your three electric trucks and seven pleasure cars could be adequately taken care of in the garage shown in the accompanying drawing. Provision is made for garaging all the machines in such a way that any one of them can get in or out at any time without moving any of the others; for charging the electrics; for giving batteries attention and overhauling without having to do the work on the main floor; for storing spares and supplies where they will be at the same time safe and accessible; for doing repair work of any ordinary description;

for the separate storage of oils and greases; and for the comfort and convenience of the men.

The main floor is 75 x 30, with two 10-foot sliding doors, and has been laid out to suit your requirements. The three trucks are placed at one end and four of the pleasure cars at the opposite end; the three remaining cars are lined up in the wall space between the doors. This leaves an open space at the back of the main floor which may be used as a wash-stand with a revolving washer overhead. The washer may be omitted if the cars are to be washed in their regular positions on the floor, which is often done.

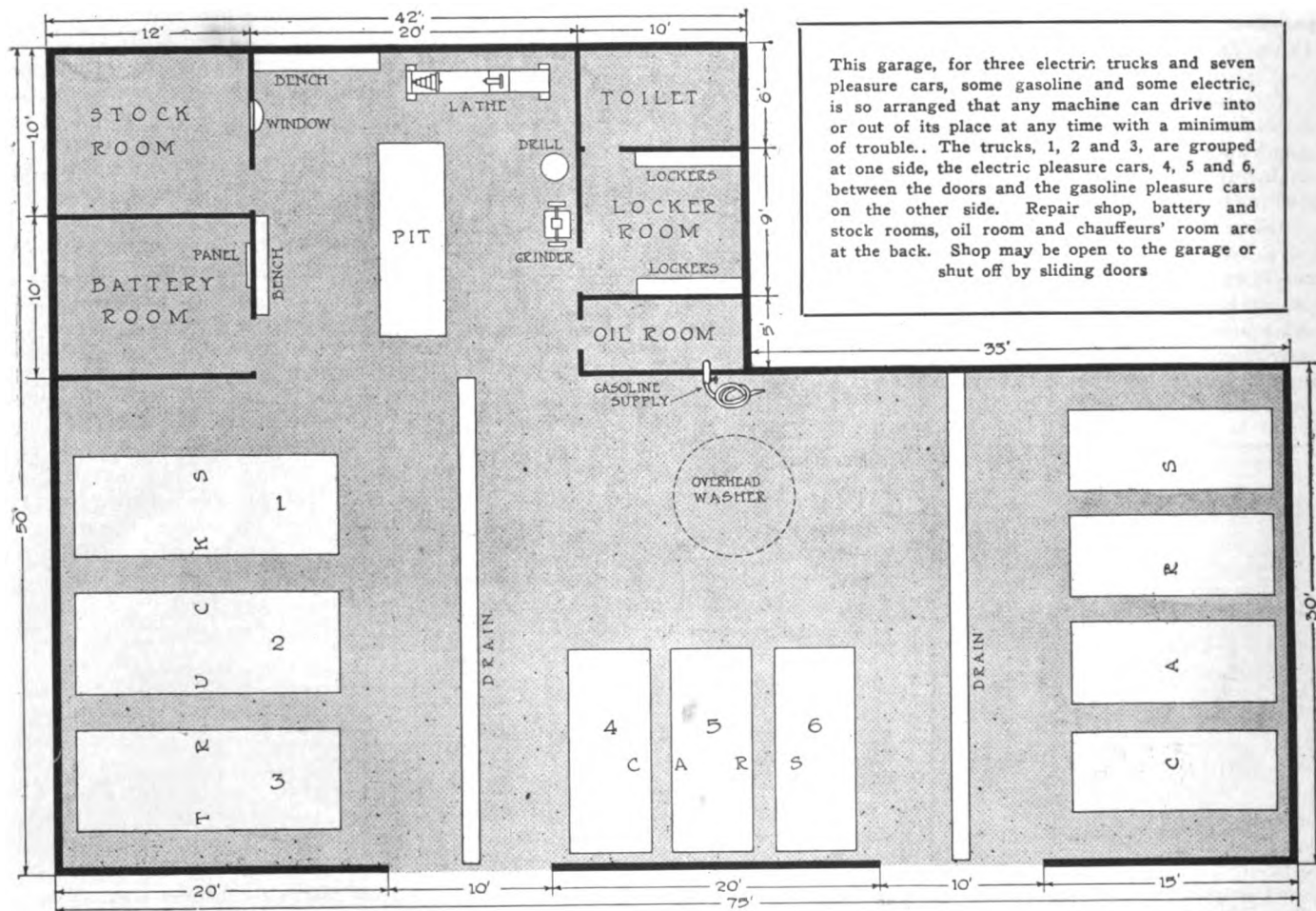
At the rear, on the left, is an L, 42 x 20 feet. In the middle of this is the repair-shop, 20 x 20, with a pit in the floor. There is ample space for all the machine tools likely to be required, and there is a good deal of flexibility in the matter of arrangement. The placing of the machines—lathe, drill press and grinder

—will be found satisfactory, and there is room for the installation of more. The shop may open to the main floor or it may be partitioned off, with a large door through which a truck could be run in over the pit.

On the left of the repairshop are the battery room and the stock room, each 10 x 12. The battery room door is conveniently located, so that batteries from the trucks would not have to be wheeled any great distance. The switchboard controlling the charging circuits is located in the battery room, where it is safer from accident than it would be outside.

Back of the battery room is the stock room, with a door leading into the repair-shop; this room is large enough to store all that is likely to be required for the whole fleet.

On the right of the repair-shop there is an oil room for lubricants and the gasoline pump, with a door opening to



the repairshop, and back of it a locker room for the men, with a wash-room, bath, toilet, etc., at the rear. The oil room is 5 x 10, the locker room 9 x 10, and the wash-room at the rear 6 x 10.

Referring to the main floor and the arrangement of the trucks and cars, it will be seen that first consideration is given to the trucks, as they are the workers. In the natural order of things the trucks will be first out in the morning; they will be away before the pleasure cars of the officials arrive in the morning, assuming that some, at least, of the cars will be housed elsewhere at night, and will usually return after the cars have left.

Convenience of Movement

By reserving the spaces between the doors for the cars that will stand in the garage during the day only, there will be room for the trucks to go out through the door at the right without any maneuvering. Even with the garage filled this can be done if truck No. 1 goes out first, followed by 2 and 3. With the space between the doors clear, the trucks could come in at either door and get into place easily. With all the pleasure cars in the garage, as might be possible at noon, the first truck in would enter the left door, run over the washing space and back into position No. 3; trucks No. 2 and No. 1 would follow. If for any reason it should be desired to have the first truck placed in position 1 or 2, the only difference would be that the truck that backed into No. 3 position would have to work in a little more cautiously. With car No. 4 out there would be no more trouble than if the garage were empty.

Charging connections for the trucks are placed along the wall with the cables, in metal conduit, suspended when not in use from hooks on cords running over pulleys on the wall or ceiling and counterweighted. There should be a wood bumper at the proper height to stop the rear wheels when they are at the proper distance from the wall, and there are several good reasons for this.

Drained Concrete Floor

The body of the truck is protected, and, incidentally, the springs; the charging wires that may be run along the wall are safe from crushing, and the steam heating pipes, which should be as near the floor as possible, are protected.

Two drains, running from the doors to the back of the garage, should be placed in the floor and covered with iron gratings made for the purpose. All parts of the concrete floor should slope toward the drains, the inclination being from 3/16 inch to the foot, if the flooring is very smooth, to 1/2 inch to the foot if very rough. The pit also should be well drained; the drain should be at one end with the floor sloping toward it

at an inclination of approximately 1/2 inch to the foot.

Some of the pleasure cars—just how many is not stated—are electric; probably not more than three out of the seven. These would be the three to be placed in positions 4, 5 and 6, with charging connection for each. There are two excellent reasons for placing the electrics here. One is that the wiring from the switchboard would not be as long as if they were placed elsewhere, and the other is that electrics, being short cars, would project less into the floor space than the average gasoline cars.

Referring again to the heating coils, it may be pointed out that it is rather a common error to put these too high, so that the heat goes straight to the ceiling without doing any good on the way, and it takes a long time to warm up the place. With the pipes low down and protected as described, the best results will be obtained.

Stock Properly Stored

In the battery room exceptionally good ventilation should be provided to carry off acid fumes. Some form of resistance should be available for making discharge tests and, if extensive battery work is to be undertaken, there should be a lead-burning outfit for use in assembling groups of plates.

Stock room arrangements will depend altogether upon the extent of the stock carried; but too much stress cannot be laid upon the importance of keeping a proper record of everything placed in stock and everything taken out.

It is also important that there be proper shelving and receptacles for parts, rather than merely a bare room into which stock is thrown any old way—a proceeding that means cash losses. The pages of Motor World have presented many methods of storing parts and accessories of all kinds and much information can be obtained from them.

The repairshop shows an arrangement

with which it is practicable to give a car a complete overhauling of the ordinary sort—that is, if the machine has not been badly smashed up. A pair of gas blow-torches might be installed for heating frames or axles to be straightened and for general blacksmithing work.

The oil room and the gasoline tanks and pump would have to be installed according to the insurance regulations; but in any case the installation should be thoroughly good. A gasoline filling station could be located at the side of the oil room, and the cars could conveniently move up and fill on the way in or out of the garage.

The conveniences provided for the men will, of course, depend upon the number employed, the time they spend at the garage, and so on. The plan is sufficiently flexible to permit plenty of scope in this respect.

As for windows, there should be plenty of them—the more the better—and it is an excellent plan to have steel sash which can swing open on trunnions to give plenty of ventilation and permit ready control.

Wiring Ford Headlights to Magneto and Battery

Alternative Diagrams for 6-Volt and 12-Volt Storage Batteries

Editor Motor World:

What is the best way to wire a Ford for two electric headlights, using a storage battery in connection with the magneto, the two systems to be independent yet operated by one switch?

Long Beach, Cal.

I. S. Mearis.

The method of wiring depends largely on whether you use a 6- or a 12-volt storage battery. The latter gives a very simple set of connections but the battery is more expensive. One side of the battery is grounded and the other bears the same relation to the system that the magneto plug does. A two-way switch is placed on the dash and this connects with the battery or the magneto, as desired. One side of the battery is grounded and the return wires from the lights are also. Twelve-volt bulbs must be used.

Fig. 1 shows the connections when a 6-volt battery is used. The solid lines indicate the wires and the broken one the path of the current through the motor and frame. The feature of this diagram is the double two-way switch shown in detail at the right. The handles of the two are connected together so that they move in unison. The points L L indicate where the wires to the lights are brought in; B is a return to the battery; E is a ground connection and provides the return to the magneto; and M is the magneto connection.

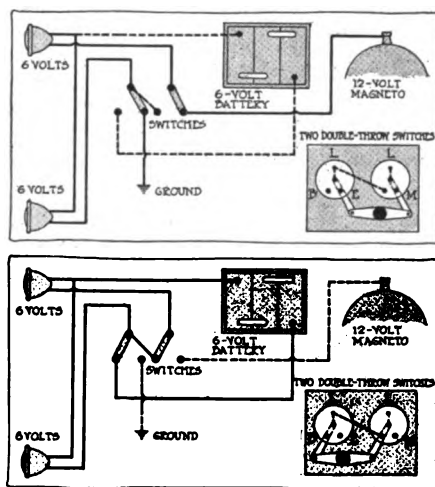
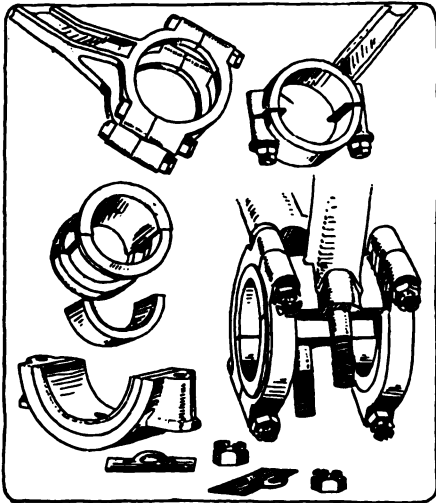


Fig. 1—Connections with 6-volt battery. Upper—magneto in circuit, lower—battery in. Solid lines indicate passage of current

Connecting Rod for V Motors

**Great Bearing Surface and Adjustability Its Features—
Designed by Watson**

A CONNECTING ROD for V motors has been brought out by John W. Watson, president of the American Bronze Co., Berwyn, Pa., which is de-



Component parts of Watson's connecting rod bearing for V-type motors, showing adjustments

signed to have the combined advantages of great bearing area and easy adjustability, providing practically the full crankpin bearing area for each of the

two rods and at the same time having adjustability for any worn part without altering the adjustment of any other part.

By dropping the lower half of the crankcase, wear on crankpin bearings can be taken up, as in the conventional vertical motor, by removing shims. Either the forked portion or that part between the arms of the fork can be adjusted without disturbing any other part, there being separate caps.

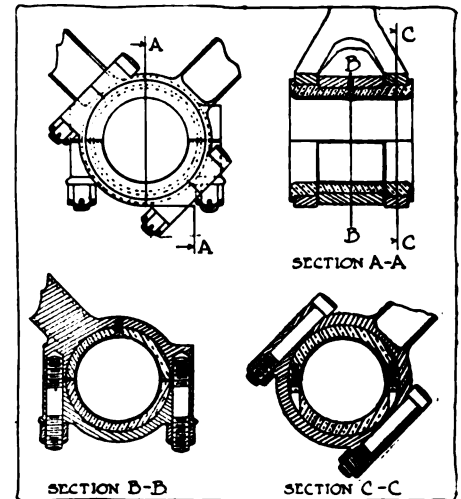
Wear between the forked rod and its bearing is minimized by having the projected area of the forked rod bearing surface about $2\frac{1}{2}$ times that of the projected area of the piston-pin bushing. An ample supply of lubricant reaches this joint, as it is located at the bottom of the rod with the pressure upon the entire bearing equal to that at the wrist pin.

In laying out the bearing surface of the new rod it is considered that the bearing stresses in eight- and twelve-cylinder motors are generally less than in other types because the cylinder dimensions are smaller, and, in order to take advantage of the lower stresses, the construction of this rod provides practically full crankpin bearing area for each cylinder. The bearing bushing is continuous across the entire top of the bearing with the adjustable features on the lower portions. In other words, an explosion in either of two opposite cylinders will work against a bearing

which extends the full width of the crankpin.

The accompanying illustrations show a design for an eight-cylinder motor with cylinders at 90 degrees. For a twelve-cylinder motor with the cylinders set at 60 degrees the main rod would incline at an angle of 30 degrees from the vertical instead of inclining 45 degrees as shown here.

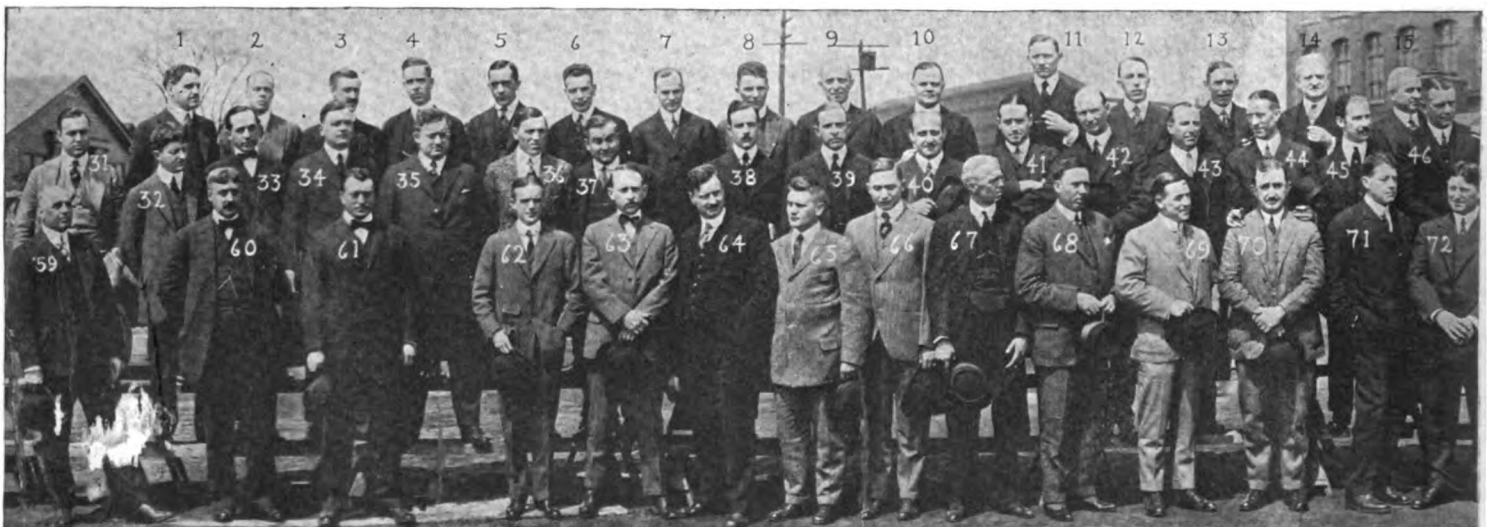
The rod was shown to members of the Society of Automobile Engineers during the recent cruise on the Great Lakes and attracted no little attention



Views of Watson bearing assembler. Bushings are continuous across top of bearing

from those interested in the design of V-type motors. The manufacturers state that the cost of the rod will about equal that of present types.

Ninety-two Men of the Locomobile Co. of America Who Recently



1—W. W. Partridge, Atlanta, Ga.
2—J. F. Toole, Atlanta.
3—F. C. Coon, Hartford, Conn.
4—P. W. Hine, Bridgeport, Conn.
5—J. R. Stine, Bridgeport.
6—J. S. Inskip, New York.
7—N. E. Ogden, New Jersey.
8—E. M. King, Atlanta.
9—F. H. Bowen, New York.
10—J. F. Plummer, New York.
11—E. L. Marshall, Philadelphia.
12—T. D. Irving, Chicago.

13—C. H. Paul, New York.
14—T. H. Thomas, Bridgeport.
15—W. F. Stevens, Boston.
16—W. H. Roesch, St. Louis, Mo.
17—C. W. Holmes, Greenwich, Conn.
18—Harry Greene, Trenton, N. J.
19—H. A. Ahrens, Chicago.
20—A. J. Banta, Chicago.
21—R. K. Sawyer, Chicago.
22—F. H. Reno, Minneapolis.
23—M. T. Wiggins, Philadelphia.
24—J. A. Kingman, Bridgeport.

25—W. S. Teal, Bridgeport.
26—D. C. Weggmann, New York.
27—H. S. Hamilton, New York.
28—H. M. Moore, White Plains, N.Y.
29—H. J. Snyder, New York.
30—J. F. DeCausse, New York.
31—A. P. Hawes, Boston.
32—M. P. Leiby, Kansas City, Mo.
33—A. L. Riker, Bridgeport.
34—S. T. Davis, Jr., Bridgeport.
35—J. T. Roche, Jr., Bridgeport.

36—W. E. Cobb, Chicago.
37—W. L. Chambers, Chicago.
38—B. G. Whitlock, Chicago.
39—M. S. Mehaffey, Chicago.
40—W. S. Sawyer, Boston.
41—S. T. Klingensmith, Pittsburgh.
42—G. H. Dreher, Pittsburgh.
43—W. H. Kouwenhoven, Brooklyn, N. Y.
44—G. A. Wells, Philadelphia.
45—A. F. C. Martins, Boston.

Separator Problem Now Faces Des Moines Trade

Ordinance Has Been Proposed by City—Would Require Preventive Measures Relating to Garage Sewage Systems

DES MOINES, IA., July 19—A proposed city ordinance to prohibit the running of gasoline and oils into sewers will be fought by the Des Moines Automobile Business Association. The city holds that the practice is dangerous and a probable cause of sewer explosions. The association holds that the ordinance will put the automobile men to a very heavy expense and that the city's contention is not justified.

King Not to Change Eight

DETROIT, July 19—The King Motor Car Co. has decided not to make any changes, either in construction or in price, in its eight-cylinder car until the end of this year. During the first six months of 1915 the King company has built and sold about 3,500 cars.

Tourists Many in Spokane

SPOKANE, July 17—With many tourists visiting the California expositions, transient business is an important factor now with members of the Inland Automobile Association; an average of about 20 cars a day stops at the association's Information Bureau. Many who have gone to the exposition are return-

ing over the National Parks Highway. Many road improvements afford desirable routes for the northern return.

Stutz Adds a New Model

INDIANAPOLIS, July 10—Under the name of the Bulldog Special the Stutz Motor Car Co. has added a new model. This is four-passenger, like the Bulldog, but whereas the former model has a wheelbase of 120 inches the new model has 130. It differs from the shorter car also in that the front seats are not divided. The car is manufactured for the four-cylinder chassis, the motor being $4\frac{3}{4} \times 5\frac{1}{2}$.

Race Day a Des Moines Holiday

DES MOINES, IA., July 17—Des Moines dealers and repairmen will close their shops the afternoon of July 31 for the first big race meet at the Des Moines speedway, which will be dedicated at that time. Prize money amounts to \$10,000. All box seats for the event are sold, many of the orders coming from other cities. Purchasers of life memberships in the association at \$50 each are 200 in number and the association will give a valuable present to each member when the two hundred membership tickets are sent out.

Baltimore "Residentials" Bar Garages

BALTIMORE, July 19—No public garages are to be erected in the purely residential sections of Baltimore. This is the stand taken by Mayor Preston and he has already turned down some applicants who wanted to build garages in these sections.

Detroit Electric Shows Ability in 1-month Run

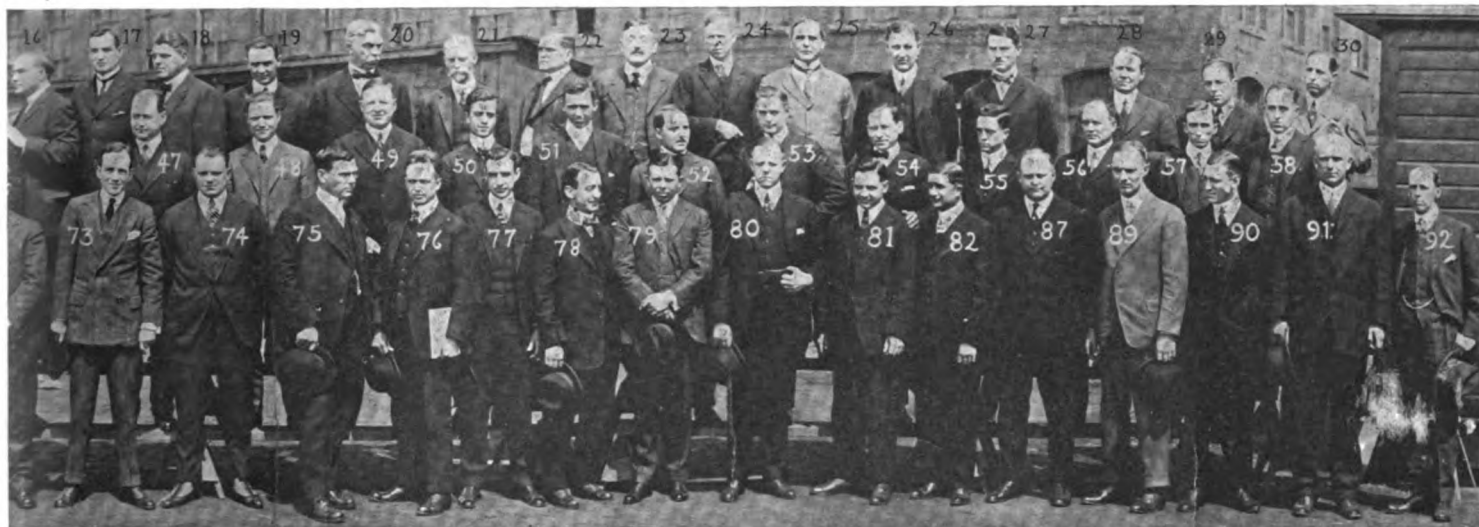
Cost per Mile Was 1.41 Cent—Traveled 2,065.1 Miles for \$29—Averaged 79.4 Miles a Day—No Repairs Required

DETROIT, July 19—During the one-month run conducted by the Anderson Electric Car Co. with one of its stock Detroit electric broughams in June, the total cost of operating the electric over a total distance of 2,065.1 miles was \$29, or an average of \$.0141 per mile.

A model 53 brougham weighing 3,962 pounds was used. It has a 42-cell 15 WTX battery and was fitted with Goodrich Silvertown cord tires. Four, five and six passengers were carried, five being the number in the car on eighteen runs. Their weight averaged 740 pounds with a maximum weight of 900 pounds and a minimum weight of 550 pounds.

The daily run averaged 79.4 miles with 100 miles as the maximum and 62 as the shortest. The average speed was 18 miles per hour, with a maximum of 22 and a minimum of 17; \$26.56 out of the \$29 was for charging the batteries or furnishing the current; \$1.50 was for flushing the battery eight times; 75 cents was spent to fill the spring grease cups three times, and 19 cents was the cost for tightening the steering tie rod once. There were no mechanical, tire or battery repairs necessary during the entire test.

Gathered in Convention at the Company's Factory in Bridgeport



16—E. A. Travis, Bridgeport.
17—F. F. Colver, New York.
18—E. T. Bloxham, New York.
19—R. P. Whitman, Brockton, Mass.
20—N. S. Davis, Providence, R. I.
21—W. H. Stillman, New York.
22—A. M. Townner, Chicago.
23—H. H. Edge, Bridgeport.
24—T. M. Swayne, San Francisco.
25—F. R. Hickman, Bridgeport.
26—M. P. Gould, New York.

27—G. L. Neefus, Bridgeport.
28—G. E. Humphries, Bridgeport.
29—S. K. Becker, Bridgeport.
30—G. L. Catlin, Bridgeport.
47—H. C. Dunn, Boston.
48—J. H. Stubbe, Pittsburgh.
49—J. T. Walker, New York.
50—J. A. Olivier, New York.
51—D. C. Roos, Bridgeport.
52—H. A. Jenks, Washington, D. C.
53—D. Anthony, Baltimore.

54—J. Bessemer, Scranton, Pa.
55—R. O'Hara, Scranton.
56—G. R. Secor, Bridgeport.
57—J. R. Hiltz, Boston.
58—Guy Lawrence, Gardner, Me.
73—W. S. Porter, Boston.
74—E. E. Each, Chicago.
75—H. W. Evans, San Francisco.
76—O. A. Farrar, Chicago.
77—A. M. Barnes, Philadelphia.
78—J. W. Florida, Philadelphia.

79—S. deB. Keim, Philadelphia.
80—Keene Caruthers, Philadelphia.
81—D. N. Longaker, Philadelphia.
82—H. L. Archey, Philadelphia.
87—Chas. Callahan, Baltimore.
89—C. A. Clenin, Chicago.
90—J. L. Bailey, Brooklyn, N. Y.
91—G. deP. Fox, Bridgeport.
92—M. A. Pollock, Bridgeport.

Ford Talks Turkey to Bankers

**Doesn't Think Much of Credit Selling by Dealers--
Bankers Seem to Have Been Peeved**

MILWAUKEE, WIS., July 19—Henry Ford told the Wisconsin Bankers Association at its annual convention in Milwaukee last week what he thinks of the responsibility of motor car builders to the bankers of the country. In handling the subject, "The Country Bank's Problem as to Automobile Loans," Ford promulgated a "Get Cash, Pay Cash" slogan and struck straight from the shoulder on a topic which has apparently been of deep concern to bankers of the country since the motor car was first built in quantities.

"You say that you feel automobile manufacturers will soon find it necessary to assist in financing the sale of their product in some such way as the manufacturers of farm machinery are obliged to do," says Ford's letter. "So far as I am concerned, I have never been able to determine just what is the difference between paying your debts now or putting them all off to some future time. Why should time be extended on farm machinery or motor cars until they are practically worn out, any more than that time should be extended on the purchase of horses or cattle? I know that time is extended on cattle where they grow in value themselves, but I do not know of any system whereby horses are purchased on credit and paid for after they are dead or the best part of their usefulness worked out.

"Why Put Off Paying?"

"It has always seemed to me that this putting off the day of payment for anything but permanent improvements was a fundamental mistake.

"The Ford Motor Co. is not interested in promulgating any plan which extends credit for motor cars or for anything else. The farmer gets cash for everything he sells, and yet expects to buy everything on credit. The country banks complain about our taking the money out of their districts. The farmers have the habit in many sections of the country of holding their crops for better prices and then they want the farm implement manufacturer and the banks to carry the load while they are waiting for better prices.

"This trouble you speak of seems to be largely due to the farmers themselves, and I can see no reason why they should be encouraged in this. The country bankers should not expect to make more than a reasonable return on their cap-

ital and therefore should not expect to carry more loans, whether on farm implements or on motor cars, than their capital and deposits permit. If the country banks want to carry these loans themselves, why not increase their capital stock to enable them to do so? It is my opinion that many of the country banks could sell a good deal of their paper to Milwaukee banks.

"The manufacturer should have cash as well as the farmer. The manufacturer pays out enormous sums in cash for wages and he gets no extended credits on any of his material. The manufacturer cannot pay cash to labor; cannot pay for merchandise in 30 days, and extend credits to purchasers of motor cars for months and sometimes years."

\$70,000,000 in Cars in Wisconsin

The discussion on motor car loans during which the Ford communication was read was one of the most important before the convention. It was brought out that today in Wisconsin there is an investment of \$70,000,000 in motor cars, 90 per cent of which has been withdrawn from banks, either by withdrawal of deposits, money borrowed or notes purchased. This condition has caused a shortage of capital, it was pointed out, and reduced the amount of money available in country districts for local merchants and others engaged in carrying on the business of the locality.

C. J. Borum, of the State Bank of Barron, Wis., presented a copy of the reply which the bank had sent to a motor car manufacturer in response to the request for information on the general motor car situation and on the rating of the local dealer. The bank pointed out that it was not willing to accept the dealer's paper when the manufacturer himself declined to accept it, and suggested that the manufacturer must accept the paper of the dealer and the dealer's customer if he "expects to keep up with the present pace."

"Buyers Can't Afford Them"

"It is about time," concludes Borum's letter, "that the motor car manufacturer and the banker look about to make an honest observation and thus know that two-thirds of the purchasers of cars have not the income to afford one."

To an outsider listening to the discussion it would seem that the bankers are somewhat peeved over the vast expendi-

ture of money among Wisconsin people, particularly farmers, for motor cars, and are inclined to throw the burden of blame for the restriction of available capital upon the motor car manufacturer. At that, Wisconsin at this time has only one-half of the number of cars owned in the neighboring state of Iowa.

DEALERS AND OWNERS FORM MOTOR CLUB

Brooklyn Men to Open Social Headquarters Saturday

Under the leadership of W. A. Sellon, manager of the Brooklyn, N. Y., branch of the Chevrolet Motor Co. of New York, and H. L. Carpenter, president of the Carpenter Motor Vehicle Co., King dealer, Brooklyn dealers and owners have formed a social organization which is to be known as the Motor Club of Brooklyn, Inc. The following officers have been elected: President, Harry Unwin, Chalmers Motor Co.; first vice-president, Clifford M. Bishop, Bishop, McCormick & Bishop; second vice-president, Del D. Martin, Martin-Evans Co.; secretary, W. A. Sellon; treasurer, I. C. Kirkham. The board of directors includes these men and J. McCormick, Jr., Bishop, McCormick & Bishop; Edwin T. Bloxham, B. T. Bishop, M. C. Reeves and Wm. R. Winans.

Spacious quarters have been established at 1255 Bedford avenue and it is planned to have an informal opening Saturday, July 24. The formal opening will take place on August 18, at the conclusion of the annual outing of the Brooklyn Motor Vehicle Dealers' Association. The object of the club is to provide luncheon and recreation facilities. The membership is limited to 250, the initiation fee being \$10 and the annual dues \$20.

Chalmers Michigan Men Dine

DETROIT, July 19—For the purpose of having the Michigan Chalmers dealers meet L. J. Robinson, who was recently appointed distributor in Michigan, District Manager C. H. Booth invited them to a dinner at the Ponchartrain. Besides Robinson those present included: Walter Judd, Paul Gee and H. D. Harris, Detroit; J. P. Beck, Saginaw; John Vlasplon, Grand Rapids; C. F. Williamson, Tecumseh; G. W. Howes, Dowagiac; C. J. Durham, Muskegon; D. B. Hyde, Port Huron; D. MacVichie, Ludington, and T. M. Orrell, Kalamazoo.

Hunt Packard Chief Engineer

DETROIT, July 19—O. E. Hunt, for several years assistant to J. G. Vincent, now vice-president for engineering of the Packard Motor Car Co., has been made chief engineer.

Maxwell Factory Sales Meeting Draws 100 Men

Plans for 1916 Season Discussed and Merchandising Problems Handled by Men Who Are Experts in These Lines

DETROIT, July 17—The three-day convention of the zone supervisors, assistant supervisors, district salesmen, special representatives and demonstrators of the Maxwell Motor Co. ended today, more than 100 out-of-town Maxwell men having taken part.

The 1916 selling campaign was thoroughly discussed and the men given every opportunity to get acquainted with the new Maxwell line. They spent much time at the Milwaukee avenue plant, where the engineering staff showed them the many new features of the 1916 model. Following are the subjects of the addresses:

Thursday, July 15—Address of welcome, Assistant Sales Manager C. E. Stebbins; Our New Car, Le Roy G. Peed; short addresses, Orlando Weber, assistant general manager, and D. M. Pulvermacher; Drafts and Remittances, B. A. Lyman, accountant; Our Service, Charles Gould, service manager; Retail Sales Plan, L. K. Cooper; Plan Your Work and Work Your Plan, John Yoke, supervisor of zone No. 5.

Friday, July 16—The entire morning session was devoted to the discussion of the new Maxwell contract. Afternoon—Educating the Dealer, T. J. Toner, supervisor zone 6; Dealer's Relation to Banker, E. M. Lubeck, assistant supervisor zone 3; Maxwell Publicity, Ezra B. Eddy, publicity manager; The New Advertising Campaign, Robert T. Walsh, advertising manager; Winter Sales, H. H. Howe, supervisor zone 2; Enthusing the Dealer, W. D. Paine.

Saturday was devoted principally to individual zone meetings and general business talks.

The visiting Maxwell sales force was made up of the following:

Zone 2—H. H. Howe, supervisor; W. H. Holley, assistant; Wright Gillies, B. H. Geddis, L. J. Blunden, W. H. Weingar, J. P. Headley, assistant supervisor; Walter Marsden, F. H. Sides, C. P. Hennessy, C. E. Beloate, J. F. Nolan, H. R. Hamilton, G. W. Stroman, A. B. Potts, R. S. Best, H. G. Lough, R. W. Little, S. H. Kelley.

Zone 3—C. R. Newby, supervisor; E. M. Lubeck, assistant; C. S. Riedel, assistant, D. R. Chapman, G. H. Williamson, W. H. Long, C. J. Brokaw, J. W. Sharp, R. L. Malkin, K. V. Myler, C. M. Craig, F. J. Winckler, W. L. Storm, H. B. Turner, E. E. Gray, W. L. Walls, H. L. Marindin, E. T. Farnum, H. E. Johnson, H. E. Chilson.

Zone 4—W. D. Paine, supervisor; E. F. McConaha, assistant; W. C. F. Morris, assistant; J. G. Paine, B. A. Rupprecht, B. W. Habel, E. W. Fuhr, L. A. Hannan, A. Foerster, R. E. Wedekind, C. W. Arthur, F. E. Miller, C. A. Smith, H. G. Bley, A. J. Kurz, I. O. Taft, A. E. Wingert, J. J. Grady, E. M. Hanavan.

Zone 5—John Yoke, supervisor; G. E. Clark assistant; W. H. Turner, M. J. Williams, G. E. Swope, D. S. Eddins, C. B. McLaughlin, J. S.

Thiell, L. A. Smith, C. C. Ruggles, J. J. Grant, W. A. Frise, N. M. Varney and J. H. Leslie.

Zone 6—T. J. Toner, supervisor; W. J. La Casse, assistant.

Canada—C. L. Ackerson and C. L. Brush, supervisors.

Special representatives—J. E. Morehouse, R. M. Rowland, C. M. Strieby, L. A. Roberts, C. E. Sweeney and A. S. Gilchrist.

Demonstrators—J. F. Gelnaw, C. Zimmerman, I. Slavin, F. M. Birmingham and J. M. McKenzie.

McGookin With Springfield Body

DETROIT, July 17—Earl McGookin, who has been connected with the Stewart-Warner Speedometer Corp., Chicago, for the last 12 years, and has been manager of the Detroit branch during the past 7 years, has resigned, to take effect August 1. He will become identified with the Springfield Metal Body Co., Springfield, Mass., which will establish a Detroit branch, for production business exclusively. Mr. McGookin has purchased an interest in the Springfield concern and with him in the new branch there will be associated Joseph Boyer, Jr., and Walter T. Fry.

Wilcox Republic Advertising Manager

G. D. Wilcox has been appointed advertising manager of the Republic Motor Truck Co., Alma, Mich. At the present time he is connected with the advertising and selling service department of the Houghton-Jacobson Printing Co., Detroit, whence he will handle the Republic advertising.

DEALER IN TOWN OF 180 WINS CHALMERS PRIZE



LEO LUX

Leo Lux, the Chalmers dealer in Wadsworth, Ill., won the sweepstakes prize, a \$1,650 Chalmers light six, in the spring sales contest of the Chalmers Motor Co., which started April 19 and ended June 30. He sold 697 per cent of his quota.

The contest was open to all Chalmers dealers and it is indicative of the fairness of the quota plan that the winning dealer is from a small town, having only 180 inhabitants, it is said. When asked what special effort he had made to win the contest, Mr. Lux stated that all he did was to get up early in the morning and work

until late at night and having a good car to sell he simply sold them.

The prize consisted in a five-passenger Chalmers light six. At the distribution of the prizes, Vice-president Lee Olwell presented Mr. Lux with a receipted bill for \$1,650 and a pass authorizing him to take the new car out of the factory.

The contest among salesmen was won by J. H. Wetmore, Correctionville, Ia. He will make a trip to the Panama-Pacific International Exposition. Second prize, a \$200 chest of silver, was awarded to Earl N. Manbeck, of the Iowa Automobile & Supply Co., Des Moines, Ia. A. B. Holabird, Decatur, Ill., won third prize, a \$100 Victrola.

Boston Dealers Learn They May Be Junk Men

They Are Protesting and Hope for Results—Law Would Require Holding Used Car 30 Days Before Selling It

BOSTON, July 17—The Boston motor car dealers are now up against a perplexing problem. A few days ago every dealer was notified that he would have to take out a license as a second-hand dealer, the same as if he were a junkman. Secretary Chester I. Campbell of the Boston Automobile Dealers Association at once began an investigation. He found that the police had been instructed to enforce the city ordinance that compels every person who buys, sells, barter or trades in any second-hand article to be licensed.

Some of the dealers when told by the police that they must take out a license applied for one. Then they got a letter from Secretary Campbell advising them not to do it. He told them there was a little joker in the ordinance that would tie them up. It provides that every such person must hold for at least 30 days every second-hand article he takes in trade. That meant that no dealer could move any motor car he took in trade for at least 30 days. As this is the busy season for selling used cars it means a heavy loss. So when the police came with the blanks filled out and seeking the \$5 fee the dealers refused to accept them.

At first the police intended not to bother the regular dealers and branch managers, but to make the ordinance apply only to the second-hand men. But the latter protested and so the dealers will have to either fight or take out a license. When the fight is made an effort will be made to have the city council change the ordinance, it being a city regulation, not a state law. This will not be as difficult as if it were a state law and no remedy could be had until the legislature met. The police give as the reason for enforcing the ordinance that there are too many thefts of motor cars, and only by getting the numbers through the used car sales can the cars be surely traced.

Ford No. 300,000 Is Turned Out

DETROIT, July 19—The prediction that the Ford Motor Co. would build more than 300,000 cars during its 1915 fiscal year was realized Friday, July 16, at 1:25 p. m. Car number 300,000 was recorded when the factory closed for the day. It is expected, according to the Ford officials, that by the end of the fiscal year, July 31, the total output will be about 315,000 cars.

Prominent Men of Trade Who Assume New Duties

**Resignations and Promotions That Serve
to Place Many Workers in New
Places—Few of Them Leave
the Industry**

C. A. Bonniwell has been appointed assistant sales and advertising manager of the Auburn Automobile Co., Auburn, Ind.

F. A. Bixby, formerly connected with the Lininger Implement Co. in Omaha, has been made district manager for the Briscoe Motor Co. in Michigan, Iowa, Nebraska, South Dakota, Wyoming and Colorado. His headquarters are in Omaha.

D. F. Graham, for four years sales manager of the Bower Roller Bearing Co., Detroit, has severed his connection with that company. He has not announced his future plans.

May Appeal to Uncle Sam

KANSAS CITY, MO., July 17—The recent cut of 2 cents a gallon in gasoline by the Standard Oil Co. may be brought to the attention of the federal trades commission. The independent refiners of the mid-continent field, where the cut was effective, are studying the subject and believe they can make out a case. They say they can compete with the Standard on equal terms, but cannot prevail against a cut directed towards them when the Standard can itself recoup its losses by increases in other districts.

Hathaway to Celebrate

BOSTON, July 16—J. S. Hathaway, manager of the New England branch of the White Co., is to celebrate the awarding by the factory to that branch of the shield that goes each season to the salesrooms that have made the best record. The announcement was made last week that the shield had been sent to Boston. So Manager Hathaway has planned an outing on his summer estate at Marshfield to which all the salesmen who aided in the winning of the shield have been invited.

Postmaster Aids Tire Service

WASHINGTON, D. C., July 17—Postmaster Otto Praeger has put into effect a plan whereby Washington motorists when on tour can ship their tires back to Washington for repairs by parcel post. The plan was launched a week ago as an experiment and proved such a success that it has been made a permanent feature of the parcel post plan. Tires weighing 11 pounds are carried for 10 cents in the local zone, in an 8-mile radius, and 15 cents for the first and second zones; the 14-pound tire takes



C. S. CARRIS
Franklin, Chicago

District Representatives

XVI

This is No. 16 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

Clayton S. Carris, with headquarters in Chicago, covers northern Indiana, northern Illinois, western Michigan, southern Wisconsin and Iowa for the Franklin Automobile Co., Syracuse, N. Y. He has always been a Franklin man, beginning in the fall of 1903 when the company was but a year old and acting during his earlier years as a contest driver. His achievements and his initials won him the name of "Clean Score." He served in many capacities at the factory in both sales and mechanical departments and about two years ago was placed in charge of his present territory.

a 12- and 18-cent rate; 17-pound, 13 and 21 cents; 21-pound, 15 and 25 cents; 22-pound, 16 and 26 cents; 30-pound, 20 and 34 cents, and 35-pound, 23 and 39 cents.

it would be a public nuisance. The city law department was called into conference and the law was looked up. When application was made for the building permit it was refused and the project will be abandoned.

No Uniontown Hill Climb in 1916

HARRISBURG, PA., July 19—State Highway Commissioner Cunningham has issued notice that no road races or hill climbing contests will be allowed on the state highways. The recent hill climb at Uniontown caused such damage to the road, it is said, that the commissioner asked the attorney-general whether it was within his power to forbid such exhibitions in the future. The attorney-general said that it was.

New Factory for Chevrolet

FLINT, MICH., July 17—Ground has been broken for a new plant for the Chevrolet Motor Co., which will be completed by September 15. It will be 616 x 150 feet, one story high and will have 2½ acres of floor. The structure will be used exclusively for the construction of motors.

Bower Pays Stock Dividend

DETROIT, July 17—The Bower Roller Bearing Co. has increased its capital stock from \$225,000 to \$300,000 as a stock dividend. At the same time the 5 per cent semiannual cash dividend was paid.

Fashionable Residents Bar Garage

COLUMBUS, O., July 16—Such strong opposition developed to the erection of a garage by Mrs. Mary Brighton in the most fashionable residence district on east Broad street, that the project was put on the shelf by the city building department.

When the announcement was made several days ago that a garage would be erected in that district, adjoining property owners retained an attorney to secure an injunction on the ground that

M. & M. Buys Havers Parts

PORT HURON, MICH., July 17—The remaining cars and parts and the goodwill of the Havers Motor Car Co. have been sold to the M. & M. Co., Cleveland. The stock will be shipped to Cleveland and sold at the M. & M. warehouse at 515 Huron road.

New Concern to Make New Tire

NEW YORK, July 19—The Gryphon Rubber & Tire Corp., with a capital of \$600,000, has been formed to manufacture pneumatic automobile tires of a foreign design with a 10,000-mile guarantee. A plant has been taken over in Mount Vernon, N. Y., 65 x 135, and of three stories, where, it is stated, the company will, in about 3 months, produce 250 tires a day.

S. A. Cunningham, 2 Wall street; P. S. Jones, 5 Nassau street, and L. Emdin, Deal, N. J., are the incorporators. Jones is the temporary president and Cunningham is treasurer.

The tire is composed of a fabric carcass and a tread of layers of rubber-filled fabrics of different widths formed into a crescent band, united by an interposed film of softer rubber, all homogeneously vulcanized.

Credit Bureau for Des Moines

DES MOINES, IA., July 19—The Des Moines Automobile Business Association will establish a credit and collection bureau for the purpose of securing to garage proprietors more prompt payment of accounts. Every dealer and garageman in the county will be enrolled as a member. N. T. Miller, who holds the post of secretary of the association, will be in charge.

Half-ton Model Added To Kissel Truck Line

Several Other Models Are Rearranged
for Coming Season—New Model's
Final Drive Is Through
Bevel Gears

Shaft drive has been extended in the product of the Kissel Motor Car Co., Hartford, Wis., to embrace one more model in its line of $\frac{1}{2}$ -, 1- and $1\frac{1}{2}$ -, 2-, 3-, 4- and 6-ton vehicles. The capacities of the Kissel model have been somewhat readjusted, the 1,000-pound vehicle being a new model which has been promised for some months. The 1-ton model rated at $\frac{3}{4}$ to 1 ton is the 1,500 pounder announced for 1915. The $1\frac{1}{2}$ -ton model is the 1 tonner of 1915 rated for 1916 at 1 to $1\frac{1}{2}$ tons. The 2 tonner, rated at $1\frac{1}{2}$ to 2 tons, takes the place of the discontinued chain driven $1\frac{1}{2}$ -ton. The 1915 $2\frac{1}{2}$ tonner is continued with chain drive with a rating of $2\frac{1}{2}$ to 3 tons, the $3\frac{1}{2}$ tonner as $3\frac{1}{2}$ to 4 tons and the 6 tonner without change.

Structurally the new 1,000 pounder does not differ from the other shaft-driven models except that the final drive is through bevel gears instead of worm gears. It is designed for pneumatic tires

as are the 1- and $1\frac{1}{2}$ -ton models and lists at \$950 for the chassis. The $\frac{3}{4}$ to 1 tonner lists at \$1,500; the 1 to $1\frac{1}{2}$ tonner has been reduced from \$1,850 to \$1,750; the new worm-driven $1\frac{1}{2}$ to 2 tonner is priced at \$2,100, the same as the $1\frac{1}{2}$ -ton chain-driven model. No other changes in price have been made, the $2\frac{1}{2}$ to 3 tonner listing at \$2,750, the $3\frac{1}{2}$ to 3 at \$3,350 and the 6-ton model at \$4,350.

To Enlarge Overland's Morrow Plant
TOLEDO, O., July 16—The Morrow Mfg. Co., Elmira, N. Y., where Overland parts are made, is to be enlarged immediately by one-third its present size and capacity. The list of more than 2,000 employees will be proportionately increased.

By September 1 the Willys-Overland Co. will have an output of 600 cars a day at this plant. Within less than one year the company expects to manufacture and ship 1,000 cars a day.

Doings in Austin Axle

GRAND RAPIDS, MICH., July 17—The Austin Automobile Co. will probably be incorporated with a capital stock of \$20,000, while another company is to be organized having a capital stock of \$1,000,000 to manufacture the Austin two-speed axle. A larger plant is also being sought by the Austin Automobile Co.

St. Louis Company Puts Out Delivery Body Line

May Be Fitted to Any Chassis—Prices
Range from \$60 to \$120—Ash
Sills, Ash Frames and
Hardwood Floors

The Commercial Auto Body Co., St. Louis, is putting out a complete line of bodies for delivery and kindred commercial service which can be fitted to any chassis.

They are strongly built with seasoned ash sills, ash frame with floors running lengthwise, reinforced hardwood floors with strips of steel, and durable trimming material. Leatherette is used in the cushions instead of enameled drill, the cushions being one piece, open bottom spring design, locked in position so as to prevent them from springing forward and backward. Prices range from \$60 to \$120.

Now Ross Automobile Co.

DETROIT, July 19—The Ross & Young Machine Co. has been succeeded by the Ross Automobile Co., which will continue to build the Ross-eight-cylinder car. The new company has been incorporated at \$300,000.

Inter-State Men Who Gathered at Convention at Factory in Muncie



1. O. W. Williams, service manager, Inter-State Motor Co.
2. O. H. Bradway, New Castle, Ind.
3. J. W. Batchelor, Schillo Motor Sales Co., Chicago.
4. G. E. Voglesong, Twyman Motor Car Co., Columbus, O.
5. Edward L. Byrns, Edward L. Byrns Co., Cincinnati, O.
6. A. N. Johnson, Union City, Ind.
7. Fred C. Bader, Western Motor Co., Kansas City, Mo.
8. W. E. Young, factory representative, Inter-State Motor Co.
9. F. A. Johnson, Johnson Motor Car Co., Fond du Lac, Wis.
10. D. J. Clamme, Hartford City, Ind.
11. B. W. Twyman, general manager, Inter-State Motor Co.
12. Fred Christman, factory representative, Inter-State Motor Co.
13. B. D. Arthur, Tri-State Automobile Co., Minneapolis.
14. O. W. Lawson, factory representative, Inter-State Motor Co.
15. Rudolph Isch, Peoria, Ill.
16. N. A. Cruzane, Iowa Motor Sales Co., Des Moines, Ia.
17. C. T. Ziegler, factory representative, Inter-State Motor Co.
18. C. C. Donovan, Donovan Automobile Co., St. Louis.
19. George M. Kanouse, Kanouse Automobile Co., Indianapolis.
20. E. W. Graulich, Graulich Auto Co., Evansville, Ind.
21. Grover C. Davis, factory representative, Inter-State Motor Co.
22. Frank Grey, Muncie Press.
23. Henry Knippenberg, advertising manager, Inter-State Motor Co.
24. L. E. Teegarden, Greenville, O.
25. W. L. Marshall, Twyman Motor Car Co., Columbus, O.
26. J. S. Pogue, Inter-State Motor Co.
27. E. B. Proudfoot, sales manager, Inter-State Motor Co.
28. Eugene Vattet, treasurer, Inter-State Motor Co.
29. J. M. Maring, director, Inter-State Motor Co.
31. T. J. Turk, engineer, Inter-State Motor Co.
32. Mr. Croziea, Muncie Star, Muncie.
33. W. M. Speare, secretary, Inter-State Motor Co.
34. A. L. Patterson, Christian Herald, New York city.

Dealers in Springfield in Credit Organization

**Form Division of City's General Credit
Clearing House—Secretary Has
Permanent Headquarters in
Office Building**

SPRINGFIELD, MO., July 20—A credit information and clearing house for motor car and accessory dealers has been organized in Springfield and will work in close harmony with the recently established credit bureau of the retail feed and fuel dealers of the city. It is the purpose to organize the more important departments of business into separate bureaus, which can cooperate in any movement looking to the improvement of credit conditions.

The attendance at the opening meeting of the garage and accessory men was very representative, and 20 persons joined the new body. Its name is "The Motor Car Accessory Dealers Credit Bureau." Its specific purpose is to maintain a central office through which the credits of the members may be cleared. Ernest Lovan, secretary of the credit bureau previously organized here, is the manager of the new bureau also; its headquarters are 712 Woodruff building.

The officers of the new body are: President, Al White, Western Motor Car Co.; vice-president, W. H. Yandell, Yandell Motor Car Co.; secretary-treasurer, B. E. Asbury, Asbury Motor Car Co. In the membership already are: Western Motor Car Co., Sam Herrick & Son, Ozark Motor Car Co., American Motor Car Co., Yandell Motor Car Co., Commercial Motor Car Co., M. Jess, Sherwood & Workman, Springfield Motor Car Co., Dixon Bros., Russell Machinery Repair Co., Springfield Auto Tire & Vulcanizing Co., Empire Motor Car Co., Old Line Auto & Carriage Repair Co., Rubber Tire Supply Co., Southeast Auto & Supply Co., Walker & Danley, Elsey Carriage Co., Acme Foundry & Machine Co., Asbury Motor Car Co.

Saxon Driveaway Contest is Started

DETROIT, July 15—Although the economy run which is being promoted by the Saxon Motor Co. and is closed to its dealers started only today, one prize already has been awarded. This went to H. Ross Maddocks, who traveled the greatest distance—from Boston—to the factory. All told, 105 dealers started on the run and it will be several days before the results are known. Prizes are to be given those dealers who reach their home towns and consume the least amount of fuel and oil.

At the dinner given to the dealers who came to take part in the economy run, Factory Manager C. C. Cross announced

that the service department has been re-organized and enlarged, making possible 24-hour service on parts.

The sales department, it was announced by R. C. Getsinger, will make twelve months contracts with dealers beginning August 1. A new "direct by mail" campaign will also be started in all cities and towns where there are no Saxon dealers at present. This direct campaign, it is believed, will greatly assist for securing better distribution and building up organizations.

Fisk Running at Full Capacity

CHICOPEE FALLS, MASS., July 9—The Fisk Rubber Co. is running at full capacity, its daily output being 5,000 tires. It is expected that the company will show earnings of \$1,500,000. These profits would contrast with \$782,000 in 1914 and would represent a surplus for the common of around 15 per cent. The common is not likely, however, to be placed on a dividend basis as the result of this year's good business. The company has a considerable floating debt and there is need of digesting its rather rapid growth.

Michelin Prices Reduced 10%

A price reduction of 10 per cent, effective July 19, has been declared by the Michelin Tire Co., Milltown, N. J. The reduction covers the entire line. The old and the new figures on some of the more popular sizes of tires are given here:

30 x 3, old price \$11.50, new price \$10.40; 30 x 3½, \$15.70 and \$14.14; 32 x 3½, \$18 and \$16.25; 34 x 4, \$24.50 and \$22; 36 x 4, \$26.25 and \$23.75; 36 x 4½, \$31.75 and \$29.25.

National Rubber to Move Plant

WILLIAMSBURG, PA., July 19—The National Rubber Co. broke ground today for a factory which will be in operation by January 1. The factory in Pottstown will continue in operation until the new factory is completed.

Lenox To Move To Lawrence

BOSTON, July 19—The Lenox Motor Car Co. Hyde Park, has finally decided to locate its factory in Lawrence. Negotiations which have been pending for several months were brought to a successful completion Saturday. The company will locate its plant on the Valpey property recently purchased by Secretary Sherman of the Chamber of Commerce.

G. M. Profits May Be \$10,000,000

NEW YORK, July 19—General Motors profits this year are being estimated at \$10,000,000, a sum which would leave approximately 50 per cent for the \$16,501,100 common after taking out interest and preferred dividends.

Change Sale and Prices of Marion and Imperial

**Mutual Motor Acquires Sales Right and
Good-will—Reductions of About
\$100 Made on Models in
Both Lines**

JACKSON, MICH., July 17—The Mutual Motors Co. has acquired the exclusive sales right, good-will and trade name of both the Marion and Imperial and will hereafter market both through individual and separate departments of its own company instead of as heretofore through separate selling corporations.

The Mutual Motors Co. has heretofore confined its program to the manufacture of the Imperial for the Imperial Automobile Co. and the Marion for the Marion Motor Co., all of Jackson.

The Mutual will continue the manufacture of both lines, the Imperial consisting of the four which heretofore listed at \$1,085, but listing now at \$995, and the six, which heretofore listed at \$1,285 but now lists at \$1,185.

The Marion light six will continue as heretofore, but at a new list price of \$1,185 instead of \$1,250, as formerly.

Warren Motor Truck Formed

WARREN, O., July 19—The Warren Motor Truck Co. has been capitalized at \$25,000. The stockholders are Warren men and have elected as directors: R. B. Wick, William Wallace, D. L. Helman, R. A. Cobb, C. E. Lovelaess, G. C. Braden and G. F. Proctor. The officers are: President, R. B. Wick; vice-president, C. B. Loveless; secretary, L. L. Jones; treasurer, G. C. Braden; general superintendent, D. M. Bell. The new company has purchased all of the machinery and equipment of the Standard Motor Truck Co. and expects to continue the former company's models.

Puritan Buys Briggs-Detroit

DETROIT, July 17—The business of the Briggs-Detroit Co. is to be continued, according to a statement made by A. O. Dunk, president of the Puritan Machine Co., which purchased the personal property of the bankrupt automobile company in the bankruptcy court July 15. A new company is being formed and it is stated that the incorporation papers have already been filed.

DETROIT, July 20—The Detroit Motor Car Co. has been formed, with A. O. Dunk as president, to continue the business of the bankrupt Briggs-Detroit Co., the personal property of which Dunk purchased last week. Officials of the new concern are now operating the service, parts and manufacturing departments, it is said.

Bay State Has 135 More Dealers Than Last Year

Statistics Indicate Good Times Among Massachusetts Car Merchandisers
—Used Car Trade Brisk During Summer

BOSTON, July 17—That the Massachusetts dealers are not losing money is indicated by the increase not alone in registration but also in the dealers listed for the first six months of this year as compared to the same period of a year ago and the entire year of 1914. From January 1 to July 1 in 1914 there were 1,445 manufacturers and dealers listed in the Bay State. For the entire year there were 1,518. For the first six months of this year there was registered 1,653. That is an increase over the same period of last year of 208, and it is 135 over the entire year of 1914. In other words, there are approximately 135 new dealers listed, for there have been few changes in the manufacturers of cars. As there are 6,622 more cars registered than during the entire period of 1914 it represents nearly that many sales.

Because this is the busy season for cleaning up sales in New England, many of the dealers do not like the early announcements of manufacturers. There is an extraordinary demand for used cars in Boston now and the dealers are doing a fine business in them.

Pope Pays Small Dividend

HARTFORD, CONN., July 19—According to the report of Colonel George Pope, receiver of the Pope Mfg. Co., in Connecticut, the cash receipts for June amounted to \$26,826.42 and disbursements to \$3,434.69. There was paid back to the creditors as a dividend \$976.38. Receiver Pope had \$70,764.83 on hand at the beginning of June and his balance July 1 was \$93,180.18. Another dividend will soon be paid the creditors.

No Goodrich Common Dividend

AKRON, O., July 15—Despite the fact that earnings of the B. F. Goodrich Co. are expected in some quarters to show 10 per cent on the common stock, it is stated that officers of the company will recommend at this month's meeting, July 28, that no common dividend be declared. The company intends to build up a large surplus first.

Missouri Takes Issue With Dealers

KANSAS CITY, MO., July 17—Motor car dealers of Kansas have been called upon by J. D. Botkin, secretary of state, to cease permitting purchasers to use "dealers'" tags; to stop advising buyers to use a pasteboard tag temporarily with the words "License applied for"; to cease

taking the tags off old cars, giving them to purchasers to use on new cars; to quit buying used cars, selling them, and failing to have the license transferred, and to discontinue using "dealers'" tags for livery and hire vehicles.

MacDonald Adds a Magnetizer

The J. F. MacDonald Mfg. Co. has removed its factory from Nevada, Ia., to Chenoa, Ill., and is now taking up the manufacture of the MacDonald magneto magnetizer in addition to its tire gauge.

Moline-Knight Roadster at \$1,475

The Moline Automobile Co., East Moline, Ill., has placed on the market a two-passenger roadster listing at \$1,475. It is mounted on the chassis of the Moline-Knight 40.

Heinze Forms Company to Make a New Starter

It Is His Own Invention—\$500,000 Corporation Organized in Springfield

SPRINGFIELD, O., July 15—To manufacture a newly patented starter, the John O. Heinze Co., capitalized at \$500,000, has been formed in this city. It is said that the new starter will sell cheaper than most present makes. William Pfum, Dayton, is president; J. O. Heinze, inventor of the starter, and B. J. Westcott, Springfield, are the principals. Heinze recently resigned as Northway's chief engineer.

Dealer Factory Visitors of the Week

PACKARD MOTOR CAR CO.

G. S. Fonda, Stowell M. C. Co. Syracuse
R. M. Mitchell, Lackawanna A. Co. Scranton
E. C. Brisley, Lackawanna A. Co. Scranton
J. H. Rose, Bradford G. Co. Bradford, Pa.
William H. Hathorn, Hathorn A. Co.,
Mason City, Ia.
M. J. Budlong, Packard M. C. Co. of New York
F. X. Dreyer, Packard M. C. Co. of New York
Cuyler Lee, San Francisco
E. E. Tolksdorff, Havana
L. R. Mack, Albany
Frank Alderman, Albany
William Lowe, Toledo
C. W. Johnson, Standard Garage, Uniontown, Pa.

MAXWELL MOTOR CO., INC.

C. W. Hoffritz, Dayton
A. M. Myers, Buffalo
H. J. Prados, New Orleans
W. J. Le Casse, Portland, Ore.
C. L. Ackerson, Winnepeg
Krusc-Garlick, Cincinnati
Journay & May, Portland, Ind.
L. Githens, Chicago

CHALMERS MOTOR CO.

J. A. Boyd, Cobduitt A. Co. Indianapolis
W. E. Rudy, Lima, O.
Leo H. Lux, Wadsworth, Ill.
Jas. Levy, Chalmers M. Co. of Ill. Chicago
H. A. Wetmore, Sioux City
J. P. Beck, Saginaw
W. J. Johnson, Cambridge M. & S. Co.,
Cambridge, O.
Homer W. Smith, Mansfield, O.
I. Van Baalen, Standard Auto Sales Co.,
Youngstown, O.
C. J. Durham, Muskegon
D. McVichie, Ludington
E. H. June, June Auto Co. Binghamton
Mr. Howes, Dowagiac, Mich.
J. Vlasbloom, Grand Rapids
Al Shem, Canton, O.
P. F. King, Woodsdale M. C. Co., Wheeling
J. C. Beemer, London, Ont.
J. S. Hoffman, J. S. Hoffman Motor Car Co.,
Sharon, Pa.

PAIGE-DETROIT MOTOR CAR CO.

H. A. Porter, Grand Rapids
John Higgins, Vassar, Mich.
A. W. Sergeant, Albion, Pa.
L. B. Earnest, Dundee, N. Y.
C. J. Clapp, Paige-Toledo Co. Toledo
J. W. Lyon, Elyria
H. G. Zickgraft, Vanderbilt, Mich.
D. L. Hoover, Mansfield
A. W. Wright, Richland, N. Y.
E. L. Smith, Howell, Mich.
M. Otteson, Menominee Falls, Wis.
B. N. James, Watertown, N. Y.
A. D. Bolton, Bolton Auto Co. Saginaw
Thomas M. Orrell, Kalamazoo
W. B. Creeger, Bascom, O.
Geo. H. Bird, Bird-Sykes Co. Chicago
F. E. Spaw, Binghamton
R. D. Rockstead, Milwaukee
F. M. Leary, Indianapolis
C. A. Riggie, Riggie & Kintligh, Goshen, Ind.
R. R. Kintligh, Riggie & Kintligh, Goshen, Ind.

FRANKLIN AUTOMOBILE CO.

E. F. Williams, Kansas City
H. F. Brownell, Sioux Falls

Nicholas Hughes, Paterson, N. J.
C. G. Heck, Albany
F. A. Hartwell, Troy

DODGE BROS.

H. O. Harrison, H. O. Harrison Co.,
San Francisco
C. F. Henshaw, Henshaw M. Co. Boston
Mason Towle, Lincoln M. C. Co. Cincinnati
C. C. Conrad, Conrad Bros. Scranton

PEERLESS MOTOR CAR CO.

J. L. Snow, Beacon M. C. Co. Boston
R. W. Cook, Girard A. Co. Philadelphia
J. R. Buck, McDuffee A. Co. Chicago
F. B. Saupp, Highland A. Co. Pittsburgh
C. E. Hamilton, Seneca M. C. Co. Rochester
A. M. Thompson, Dominion A. Co. Toronto, Ont.

STUDEBAKER CORP.

F. C. Pew, Jefferson M. C. Co.,
Steubenville, O.
Warner M. Bateman, San Diego
C. C. Geib, Millersburg, N. Y.
J. C. Backus, Smethport, Pa.
F. A. Bigler, Chippewa Falls, Wis.
P. H. Duff, Beaver Falls, Pa.
J. C. Stamp, Wheeling, W. Va.
W. L. Shellabarger, Decatur, Ill.
J. H. Francis, Morris, Ill.
W. T. Radcliffe, Galesburg, Ill.
M. E. Heynes, Buchanan, W. Va.
A. O. Wood, Akron, O.
Russel Trout, Lebanon, Ind.
E. L. Baumgardner, Akron, O.
M. H. Kerr, Adrian, Mich.
J. B. Richards, Ashland, O.
R. H. Thieman, Sheboygan, Mich.
J. L. Fike, Ashland, O.
W. J. Shaw, North Adams, Mass.
O. C. Reed, South Bend, Ind.
H. L. Kelly, Boston
Herman Schuell, South Bend, Ind.
Hugo Pekuhn, Mingo Jct., O.
Carl J. Smith, Knapp & Smith, Decatur, Ind.
R. N. McGraw, Bellaire, O.
Wm. McConaughy, Bridgeport, O.
W. P. Williams, Youngstown, O.
L. B. Alford, Leipsic, O.
D. S. Cade, Veedersburg, Ind.
G. A. Davis, Winchester, Ind.
S. S. Carroll, Jr., Hartford, Ind.
J. O. Hahn, Cleveland, O.
J. R. Howe, Rantoula, Ill.
E. Ford, Mansfield, O.
R. J. Laubengayer, Salina, Kan.
U. D. Carnes, Mexico City, N. Y.
J. C. Taylor, Mexico City, N. Y.
E. E. Tolksdorff, Havana, Cuba
F. A. Wilkinson, Santiago, Cuba
F. L. Mills, Bridgeport, Conn.
C. T. Johnson, Moscow, Idaho
J. L. Stamp, Alliance, O.
Fred Lampbright, Alliance, O.
T. J. Holden, Chicago Heights, Ill.
J. H. Spindler, Valparaiso, Ind.
J. J. Galbraith, Nevada, Ia.
G. H. Andress, Elyria, O.
L. K. Edwards, Escanaba, Mich.
L. E. McKinzie, Pittsburgh
H. Longebaugh, Dunkirk, O.
R. Wigger, Marion, Ind.
F. A. Greenwald, Lanark, Ill.
S. Giddings, Lanark, Ill.
William Engle, Terre Haute, Ind.

Precision Instruments for Testing Rubber

Shore Elastometer and Durometer Give Direct Readings of Qualities of Rubber—Can Be Used Freehand

Two instruments have been developed by the Shore Instrument & Mfg. Co., 555-557 West 22nd street, New York, for ascertaining with ease and precision the elusive qualities of rubber; one, the durometer, indicates the degree of hardness, and the other, the elastometer, the elasticity in terms of resistance to permanent deformation or tearing. Both are of pocket size, not much bigger than a watch, can be used free-hand—that is, applied by hand to any surface on which a test is to be made—and they are inexpensive. The instruments are alike in principle and differ only in details. Readings are obtained by pressing a blunt pin into the rubber and noting the resistance indicated on a scale.

Pointer Indicates Resistance

The outward forms of the instruments are shown in the accompanying illustrations. At the bottom of each, in a line with the knurled head at the top, is a small steel disk through which works the blunt pin. The pin is connected, through a spring of exceedingly fine and accurate construction, with the indicating hand. In both cases readings are taken by pressing the pin into the rubber until the disk makes firm contact with the surface, preventing further penetration. The scale indications are then noted.

In the case of the durometer, or hardness measuring instrument, the pin is sufficiently blunt so that it cannot break the surface of the material under test and so can be used on finished articles. The instrument is held vertical to the surface upon which the test is to be made and pressed down until the disk makes contact; the indicating needle will be deflected in proportion to the resistance offered to the pin.

Time Factor Is Important

This, however, is not all. If the rubber has a tendency to take a permanent set—if it has not sufficient resiliency to spring all the way back to its original form—the pressure on the pin will relax gradually and the indicating needle will show this by retracing its movement on the dial. The greater the tendency to take permanent set the more rapid and extensive the retrogression will be. In this connection the time factor is important. To obtain accurate results there should be a time constant; the instrument should be held on the rubber for a predeter-

mined period and the retrogression of the indicator noted for the first second, the next 5 seconds and the balance of the time, or some similar routine followed.

Accurate Freehand Tests

The elastometer has an exterior knob which is absent in the durometer; it has an up and down movement on the arc of the casing. Before making a test this knob is moved downward as far as it will go easily; the instrument is then applied, the pin being pressed into the rubber, as in the case of the durometer, until the disk makes contact with the surface. After waiting about 5 seconds the knob is gently and gradually raised, unlocking the pin and releasing the indicating hand, which immediately rises to a point on the scale which indicates the elasticity of the rubber.

The time factor enters this test as well as the hardness test, and in making test records the same style of routine should be followed in order to make intelligent comparisons.

In using either of the instruments free-hand it is recommended that several tests be made in each case and the average used as final, so as to avoid likelihood of error. To obtain the most accurate

results, however, a stand is provided which maintains constant and accurate relative positions of instrument and sample. The instrument is clamped to the column of the stand, and tests can be made in two ways. The platform on which the sample is placed can be moved up and down while the instrument is held stationary, or the platform can be fixed while the instrument is moved. This is a matter of convenience only and does not affect the result in the least.

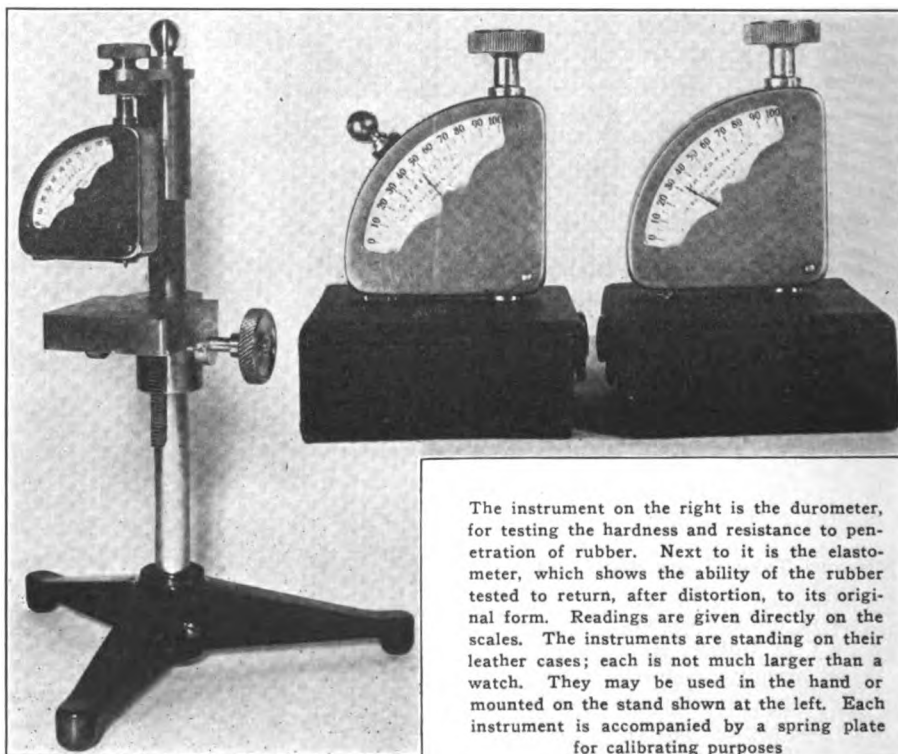
Spring for Calibrating

As the value of the tests is dependent upon the constancy of the resistance offered by the spring, it is important to know that the spring does not deteriorate. A means of testing it is provided in a standard spring plate. To test the spring the instrument is placed with its pin in a depression in the spring plate provided for the purpose, and is pressed down until the disk stops further movement. The reading of the indicating hand should then correspond exactly with the standard reading marked on the plate. If there is a discrepancy it will be remedied by the manufacturers.

The price of either instrument, with leather case, is \$12; if both are purchased together, \$23. Stand, \$15. Either instrument with stand and leather case, \$25; both instruments, 2 leather cases and testing stand, \$35; both instruments, 2 testing stands and 2 leather cases, \$45.

Kill the Octopus!

Page 5



The instrument on the right is the durometer, for testing the hardness and resistance to penetration of rubber. Next to it is the elastometer, which shows the ability of the rubber tested to return, after distortion, to its original form. Readings are given directly on the scales. The instruments are standing on their leather cases; each is not much larger than a watch. They may be used in the hand or mounted on the stand shown at the left. Each instrument is accompanied by a spring plate for calibrating purposes.

Bank Aids the Farmers To Purchase Motor Cars

Its Attitude Is Based on Belief That
Automobile Is Factor in Keeping
Young People on the Farm
—Paper Paid Promptly

ROSALIA, WASH., July 17—That there is a sunny side to the dealer-banker situation is revealed by F. J. Wilmer, cashier of the Whitman County Bank, which is situated in the heart of the wheat belt. While dealers in many sections claim the bankers will not encourage farmers in the purchase of automobiles, Wilmer states that his bank believes that cars are good things for the farmer and that automobile paper is paid the most promptly of any paper the bank has. The bank's attitude is based partly upon the belief that the car is an important factor in keeping young people on the farm.

Briggs-Detroit Files Schedule

DETROIT, July 15—The Briggs-Detroit Co. has filed a schedule of its assets and liabilities. The former are given as \$751,999.33 and the latter as \$556,424.83.

The total amount of unsecured claims is set at \$391,925.37; to creditors holding securities, \$158,048.56; to employes and shop workers, \$4,452.33; liabilities on notes or bills discounted which ought to be paid by drawers, makers, acceptors or endorsers, \$109,857.80.

Among the items mentioned in the assets are: Machinery, tools, etc., \$86,062.05; stock in trade, \$227,696.36; patents, copyrights, etc., \$150,000; cash, \$111.86; real estate, \$89,111.36; bills, notes, securities, \$114,991.10; debts due to the petitioner, \$84,826.60.

The value of the assets and the amount of the liabilities as found by the Detroit Trust Co., receiver, will not be known for several days.

The first meeting of the creditors was held July 15 in the offices of Lee E. Joslyn.

Another Race at Omaha

OMAHA, July 17—The directorate of the Omaha speedway is planning to hold another contest on the 1¼-mile track in October during the week of the Ak Sar Ben festival.

Supplanting His Subdealers

HARTFORD, CONN., July 16—L. H. Elmer, proprietor of the Elmer Automobile Co., Hartford, Conn., distributor of the Ford in four counties, announces his intention of putting in his own stores in the various towns where he now has subdealers better to care for his increasing trade. Elmer is the largest dealer

in the territory mentioned, over 400 cars having already been sold in Hartford at retail alone. An Elmer branch is now in operation in New Britain, where a subagency formerly existed. The change has been decidedly for the better and has influenced the desire for more direct representation.

St. Louis Show October 3

ST. LOUIS, July 19—Preparations for the next St. Louis automobile show are now under way. The show is scheduled to open Monday, October 3, which is the beginning of Veiled Prophet's Week in St. Louis. At a meeting at the Planters Hotel the show committee elected Joseph A. Schlecht, of the Mound City Buggy Co., chairman of the committee, making him executive officer of the show.

The other members of the committee are J. D. Perry Lewis, Lewis Automobile Co.; H. B. Krenning, Dorris Motor Car Co.; Milton B. Strauss, Detroit Electric Car Co. of Missouri, and John H. Phillips, Hudson-Phillips Motor Car Co.

Checks on Stolen Goods

KANSAS CITY, MO., July 17—A request for a day or two in which to consider the purchase of the accessory or part is part of the policy of the Auto Wrecking Co., 13th and Oak streets, in its endeavor to avoid purchasing stolen goods. This method has worked out satisfactorily despite the fact that the city has been and is now suffering from an epidemic of excessive thefts. Many parts and accessories are offered for purchase every day and many of those on which the request for time is made are not brought back.

Mennonites Converted To the Car

SABETHA, KAN., July 17—The Mennonite farmers are buying automobiles. The Amish church has modified its rule against the motor car and has released for the benefit of the dealers the wealth of the Mennonite farmers, who are very prosperous. While the church rule was in effect its members were very "sot agin" the motor car and change of heart can be appreciated only by those who are familiar with them.

Cadillac Shipped 11,895 Eights

DETROIT, July 19—During the first half of 1915 the Cadillac Motor Car Co. manufactured and shipped a total of 11,895 eight-cylinder cars. This is the biggest production for a period of six months in the history of this company. The first Cadillac eights were shipped from the factory in October, 1914. Seven thousand forty-three cars were made in April, May and June, as compared with 4,852 during the preceding three months; 1,321 Cadillacs were made in January, 1,575 in February, 1,956 in March, 2,325 in April, and 2,519 in May.

Eight New Ford Branches Will Be Opened August 1

Washington, Council Bluffs, Jacksonville,
Wichita, Fort Worth, and Utica on
List—Total Number Will
Then Be 43

DETROIT, July 17—Eight new branches will be opened by the Ford Motor Co. August 1, in Washington, D. C.; Council Bluffs, Ia.; Jacksonville, Fla.; Wichita, Kan.; Fort Worth, Tex.; Nashville, Tenn.; Syracuse, N. Y., and Utica, N. Y.

This will bring the total number of Ford branches in the United States to 43 and the number of assembling plants to 26. Some of the branches will probably ultimately become assembling plants.

Ford Establishment in Syracuse

SYRACUSE, N. Y., July 19—The Ford company is said to be planning to establish a big branch in this city and to make Syracuse one of its important distributing points. Temporary quarters are now being sought here and it is planned to lease a building with 20,000 feet of floor for a year. According to present arrangements a plant will then be built.

H. E. Patridge, who is with the Buffalo branch, has been in the city trying to find suitable quarters until the company can erect a building of its own. It is said that the new building will cost about \$50,000.

Ford After Cut-Price Car

JOLIET, ILL., July 16—The Ford Motor Co., Detroit, has filed suit against James Murdie, Manhattan, Ill., to recover his Ford car to which the company claims he has no title because he paid less than the set retail price. Before a customer can secure a title to a Ford the bill of sale must bear the signature of one of the company's officers, which is not given unless the list price is paid. Murdie's trouble is that he does not possess the requisite bill of sale.

Stewart-Warner Extra Dividend?

NEW YORK, July 16—The Stewart-Warner Speedometer Co., it is said, will increase the common dividend rate or else will declare an extra disbursement next fall.

The stock has paid 6 per cent per annum since the organization. Profits this year are running well ahead of those of the corresponding period of 1914, and indications are that in the year to December 31 next the company will earn between 12 per cent and 15 per cent on the \$10,000,000 common stock.

Motor Car Dealers Recently Established

Place	Car	Dealer	Place	Car	Dealer
ARIZONA			MISSOURI		
Ray	Overland	Miller Bros.	Kansas City	Fullman	Herff-Brooks Motor Co.
Williams	Chevrolet	Babbitt & Polson	St. Louis	Westcott	Westcott Motor Sales Co.
CALIFORNIA			St. Louis	Herff-Brooks	Mogul-Vulcan Sales Co.
Alhambra	Marwell	J. D. Meyer	NEW JERSEY		
Artesia	Apperson	Artesia Garage & Tool Co.	Atlantic City	King	H. L. Adams
Burbank	Apperson	C. I. Lovejoy	Red Bank	Owen	F. B. Bolce & Co.
Carlsbad	Oldsmobile	Lee Wilson	NEW YORK		
East Hollywood	Apperson	Charles Erb	Olean	Westcott	Manza & Questa
Elsinore	Apperson	Charles E. Marak	Rochester	Westcott	Boy F. Snapp
Hanford	Oldsmobile	Phillion & Sanborn	Schenectady	King	McDonald Garage Co.
Hemet	Apperson	Bush Bros.	NORTH DAKOTA		
Inglewood	Apperson	B. C. Hamlin	Bismark	Oldsmobile	National Highway Mot. Co.
Los Angeles	Scripts-Booth	H. W. Moore	Enderlin	Oldsmobile	Rex Lindemann
Modesto	Oldsmobile	C. A. Journigan & Son	Forest River	Oldsmobile	David H. Moltman
Norwalk	Apperson	Harrison B. Wood	Jamestown	Oldsmobile	Jamestown Motor Co.
Oakland	Oldsmobile	J. C. Lavene	OHIO		
Pasadena	Haynes	City Hall Garage	Akron	Westcott	Akron Westcott Sales Co.
Richmond	Oldsmobile	R. L. Draper	Bellefontaine	Oldsmobile	George W. Cronley
Santa Ana	Haynes	J. L. Warnock	Carrollton	Oldsmobile	Carrollton Motor Car Co.
San Bernardino	Apperson	J. S. McIntyre	Columbus	Jackson	Cott-McKelvey Co.
San Dimas	Apperson	Fleming & Fleming	Columbus	Pierce-Arrow	Capital Motor Car Co.
San Fernando	Apperson	K. F. Meyer	Postoria	Oldsmobile	Harry Nestetter
Stockton	Oldsmobile	Temecula Valley Garage	Kent	Oldsmobile	Portage County Garage
Temecula	Apperson	L. J. Harris	La Grange	Oldsmobile	E. L. Adams & J. A. Nicols
Wilmington	Apperson	J. W. Gogarn	Mansfield	Westcott	Mansfield Motor Sales Co.
CONNECTICUT			Sebring	Oldsmobile	Sebring Auto Co.
New Haven	Mitchell	G. B. Wuesterfeld Co.	Spencer	Oldsmobile	Spencer Garage
New London	Rauch & Lang	A. H. Davis	Springfield	Westcott	C. S. Burke
ILLINOIS			Washington C. H.	Westcott	O. E. Powell
Chicago	Owen	Chicago Coach & Carriage Co.	PENNSYLVANIA		
Brownstown	Auburn	C. E. Stine	Philadelphia	Herff-Brooks	Nat'l Motor Co. of Phila.
E. St. Louis	Oldsmobile	J. H. Byerly	TEXAS		
Gillespie	Oldsmobile	Gillespie Garage	Midland	King	Western Auto Supply Co.
Granite City	Oldsmobile	L. C. Kaltenbach	Schulenberg	King	I. E. Clark
INDIANA			Yorktown	King	Gus Zedler
Alexandria	Oldsmobile	E. W. Lee	WEST VIRGINIA		
Anderson	Oldsmobile	Wm. W. Atherton	Wadestown	King	J. O. Clark
Crawfordsville	Oldsmobile	W. A. Shaw & Son	WISCONSIN		
Frankfort	Oldsmobile	Thurman & Jones	Brodhead	Overland	Fleek & Knezel
Jeffersonville	Overland	Jeffersonville Motor Car Co.	Brodhead	Herff-Brooks	Fleek & Knezel
La Fayette	Oldsmobile	J. T. Hamill	Brodhead	Jackson	Fleek & Knezel
Muncie	Oldsmobile	Cary Shaffer	Clinton	King	E. Terwilliger & Son
New Albany	Overland	John J. Hagel	Delavan	Franklin	Stewart Garage
Peru	Oldsmobile	W. E. Carson	Eau Claire	Chandler	Storley Auto Co.
IOWA			Fond du Lac	Chevrolet	J. D. Giddings
Cedar Rapids	Oldsmobile	Western Auto Supply Co.	WYOMING		
Clarinda	Oldsmobile	Wm. Wehmiller	Gillette	Grant	Arthur Harvey
Malvern	Oldsmobile	Salyers & Kayton	Laramie	Grant	Lovejoy Novelty Wks.
Walnut	Oldsmobile	A. J. Hansen & Co.	Moorecroft	Grant	Charles Kirb
KANSAS			Newcastle	Grant	J. Sedgwick
Chanute	Oldsmobile	H. L. Stewart	Sheridan	Grant	W. C. Beld & Son
Hutchinson	King	C. H. Livingston Auto Co.	Wheatland	Grant	Wheatland Garage
Hutchinson	Oldsmobile	Benson & Walte Motor Co.	Coming Events		
Kinsley	Oldsmobile	B. F. Tatum	*Indicates sanction by A. A. A.		
KENTUCKY			July 31	Denver, Col., Road race. Promoter, Chas. L. Newcomb, Jr.	Sept. 17-18.....Peoria, Ill. Convention of Garage Owners Association of Illinois.
Buffalo	Overland	E. S. Farrell & Son	July 31	Des Moines, Ia. — Speedway races.	Sept. 18-25.....Los Angeles, Cal.—Eighth annual automobile show.
Clay	Overland	Hearin Motor Car Co.	Aug. 2-3.....San Francisco, Cal., Tri-State Good Roads Association, third annual convention.	Sept. 20-25.....San Francisco, Cal., International Engineering Congress.	Oct. 1-2.....Trenton, N. J., Track meet, Inter-State Fair.
Dawson Springs	Overland	V. C. Iglehart	Aug. 14.....Janesville, Wis., Track meet, Janesville Park Assn.	Oct. 2.....Fresno, Cal.—100-mile track race, Fresno Agricultural Association.	Oct. 2.....New York, N. Y. Speedway races, Sheepshead Bay Speedway Corp.
Greenville	Overland	Irvin, Gilman & Green	Aug. 21.....Elgin, Ill., Road races, Chicago Auto Club.*	Oct. 3-10.....Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.	Oct. 6-16.....New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Guthrie	Overland	Longstaff & Grube	Aug. 28.....Kalamazoo, Mich., 100-mile track race, Kalamazoo Motor Speedway.	October 7.....Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.	January 1-8.....New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
Hardinburg	Overland	T. J. Hook	Aug. 30-Sept. 3.....Columbus, O.—Automobile show; Columbus Automobile Show Co.; Ohio State Fair.	January 22-29.....Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.	March 4-11.....Boston, Mass.—Fourteenth Annual Show; Boston Auto. Dealers Assn.; Boston Commercial Vehicle Assn.
Hawesville	Overland	George Bentley	Sept. 4.....Minneapolis, Minn.—Speedway races; Twin City Motor Speedway.		
Henderson	Overland	Park Garage Co.	Sept. 6.....Providence, R. I., Speedway races. Promoter, F. E. Perkins.		
Jeffersontown	Overland	Meyers & Blankenbaker	Sept. 6.....Detroit, Mich., Speedway races, Detroit Speedway Club.		
La Grange	Overland	McDowell & Duncan	Sept. 6-9.....Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.		
Lebanon Junction	Overland	R. L. Mudd	Sept. 11.....Minneapolis, Minn. Speedway races; Twin City Motor Speedway.		
Leithfield	Overland	E. A. Parsons			
Mt. Washington	Overland	Horace McGee			
Bockport	Overland	Urey Hayden			
St. Matthews	Overland	A. J. Eline			
LOUISIANA					
Garyville	King	H. S. Preston			
MAINE					
Freeport	Auburn	Maine Auburn Auto Co.			
Kennebunk	Oldsmobile	F. C. Lord			
Lewiston	Oakland	A. W. Nelke			
Portland	Oldsmobile	Oldsmobile Co. of Portland			
MARYLAND					
Berlin	Oldsmobile	Murphy's Garage			
Indianhead	Oldsmobile	A. O'Shea			
Laurel	Oldsmobile	E. W. Shaffer			
MASSACHUSETTS					
Boston	Oakland	L. B. Sanders			
Greenfield	Oldsmobile	Matthew Barber			
Lowell	Auburn	G. W. Morrison			
Worcester	Paige-Detroit	E. L. Caton			
MINNESOTA					
Foxhome	Oldsmobile	H. Nieland			
Madison Lake	Oldsmobile	John Casper			
Mendota	Oldsmobile	E. Bernier & Sons			

Motor Car Securities Quotations

	July 17, 1914	July 17, 1915
	Bid	Asked
Ajax-Grieb Rubber Co., com.	220	300
Ajax-Grieb Rubber Co., pfd.	98	101 110
Aluminum Castings, pfd.	98	100 98
Chalmers Motor Co., com.	100	103 91
Chalmers Motor Co., pfd.	94	96 95 95 1/2
Firestone Tire & Rubber Co., com.	310	315 500
Firestone Tire & Rubber Co., pfd.	108	110 100 111
General Motors Co., com.	91	92 1/2 188
General Motors Co., pfd.	91 1/2	93 104 105 1/2
B. F. Goodrich Co., com.	25 1/2	25 1/2 50 53
B. F. Goodrich Co., pfd.	88	90 104 105 1/2
Goodyear Tire & Rubber Co., com.	170	175 270 273
Goodyear Tire & Rubber Co., pfd.	97	98 1/2 107
Gray & Davis, Inc.	98	102 1/2 92 96
International Motor Co., com.	3	3 17 19
International Motor Co., pfd.	3	3 43 45
Kelly-Springfield Tire Co., com.	54	56 155 157
Kelly-Springfield Tire Co., 1st pfd.	76	80 85 87
Kelly-Springfield Tire Co., 2nd pfd.	94	100 155 160
Maxwell Motor Co., com.	14 1/2	14 1/2 30 30
Maxwell Motor Co., 1st pfd.	43 1/2	44 1/2 83 85
Maxwell Motor Co., 2nd pfd.	17	18 1/2 34 34
Miller Rubber Co., com.	100	100 100 102
Miller Rubber Co., pfd.	103	103 103 105
Packard Motor Car Co., com.	103	112 110 115
Packard Motor Car Co., pfd.	97	100 96 100
Peerless Motor Car Co., com.	10	17 96 100
Peerless Motor Car Co., pfd.	50	50
Portage Rubber Co., com.	36	35 35 38
Portage Rubber Co., pfd.	90	92 92 95
Reo Motor Truck Co., com.	11 1/2	12 1/2 18 16
Reo Motor Truck Co., pfd.	18	19 20 1/2 21
Stewart-Warner Speed. Corp., com.	51	52 66 1/2 67 1/2
Stewart-Warner Speed. Corp., pfd.	90	101 104 104 105
Studebaker Corp., com.	30 1/2	31 1/2 81 81
Studebaker Corp., pfd.	83	86 90 101
Swinehart Tire & Rubber Co.	85	87 77 78
U. S. Rubber Co., com.	85	86 1/2 45 45
U. S. Rubber Co., 1st pfd.	101	102 103 103
White Co., pfd.	107	110 103 105
Willis-Overland Co., com.	89	91 137 138
Willis-Overland Co., pfd.	84	96 102 103

*Par value \$10; all others \$100 par value.

Coming Events

*Indicates sanction by A. A. A.	
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July 31	Des Moines, Ia. — Speedway races.
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Aug. 28	Kalamazoo, Mich., 100-mile track race, Kalamazoo Motor Speedway.
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Sept. 4	Minneapolis, Minn.—Speedway races; Twin City Motor Speedway.
Sept. 6	Providence, R. I., Speedway races. Promoter, F. E. Perkins.
Sept. 6	Detroit, Mich., Speedway races, Detroit Speedway Club.
Sept. 6-9	Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
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Sept. 17-18	Peoria, Ill. Convention of Garage Owners Association of Illinois.
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Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal.—100-mile track race, Fresno Agricultural Association.
Oct. 2	New York, N. Y. Speedway races, Sheepshead Bay Speedway Corp.
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MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 4

New York, July 28, 1915

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Yes, these and chemical ingredients handled by a directing knowledge form the basis of all good brake lining.

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Perhaps this accounts for the success and popularity of MULTIBESTOS.

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PHILADELPHIA—N. A. Petry Co., Inc., 1309 Race St.
CHICAGO—F. E. Sparks, 1430 Michigan Blvd.
SAN FRANCISCO—Fred Ward & Son, Inc., Cor. First and Howard Sts.

MULTIBESTOS REG. U.S. PAT. OFF.

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It isn't maturing as advertised and Detroiters want to know "where they get off."



Overland
TRADE MARK REG.
DELIVERY CARS

Prices f. o. b. Toledo

\$725

*Open Express
Delivery Car*

A Substantial Delivery Car at a Low Price

\$750

*Panel Body
Delivery Car*

THIS announces the new Overland Delivery Car—now ready for immediate shipment.

Unusually low in first cost, and inexpensively maintained, this sturdy vehicle will soon *pay for itself in quick deliveries.*

In it you get full benefit of the saving in price made possible only by the extensive manufacturing facilities of the great Overland plant.

The Overland Delivery Car is faster than a horse or team. It is far more reliable. It is much cheaper in proportion to the work done. It gives you the quick action you need in your business.

The 35 horsepower motor has a big surplus of power over anything you will ever require.



35 horsepower motor
High tension magneto
ignition
5-bearing crankshaft
Thermo-syphon
cooling
Underslung rear
springs

33" x 4" tires; non-
skids in rear
Demountable rims
Electric starting and
lighting system
Large, powerful brakes
Rain-vision, ventilat-
ing windshield

Instrument board on
cowl dash
Left-hand drive
Center control
Electric switches on
steering column
Magnetic speedometer

**"Made
in
U. S. A."**

You can depend on it absolutely at all times — under all conditions.

The Overland Delivery Car is electrically lighted and started. It has high tension magneto ignition, revolving oil indicator, electric control switches on the steering column, large tires, and many other advantages found on no other delivery car at this low price.

In every respect it maintains the high standard for which Overland has always stood. It is a substantial, money-making investment for any business man who maintains a delivery system.

The following specifications attest the car's remarkable value.

Write for a special delivery car catalogue. Please address Dept. 50

The Willys-Overland Company, Toledo, Ohio

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, July 28, 1915

No. 4

Marshaling 2,000 Dealers to Fight the Mail Order House

Lincoln Man Uses Unusual Method

LINCOLN, NEB., July 26—For the purpose of combatting the mail order house, Charles E. Hill, a jobber and manufacturers' representative, is enlisting the support of dealers and garagemen of this section of the west. His plan is to send to manufacturers of accessories and supplies the united voice of at least 2,000 dealers and garagemen, who are being asked to indicate their willingness to handle only such merchandise as is not sold through the mail order house.

Hill has been opposed to the mail order business for a long time, and in placing his leading spark plug on the market did so with the proviso that it would not be sold to mail order houses for cut-price distribution by mail to the disadvantage of the garageman and car dealer.

He is in touch with more than 1,000 retailers at the present time and states that by October 1 he expects to have 2,000 enlisted in the cause he champions. The mail order houses have had large sales in this section and the competition at cut prices has been and is keenly felt

by the retailers. One plaint is that mail order houses often advertise accessories at a price as low as that the garageman and dealer has to pay at wholesale, which makes it impossible for the latter to compete at all in price.

As a starter Hill is sending to his dealers a blank form which the dealer is asked to sign and return. This form, which is reproduced elsewhere in this story, states that the dealer is in favor of Hill's anti-mail order campaign and agrees not to stock any accessory which is furnished to mail order houses by the manufacturer directly or indirectly. The plan behind the campaign is explained by Hill in a statement in which he says:

"Dealers should handle only automobile supplies that are not sold at cut-

prices by mail-order houses. I have already induced several manufacturers to adopt a policy of refusing absolutely to sell their goods to mail-order houses. I have told such

manufacturers that I would introduce their goods to

my dealers, only provided they contract with me that they will sell only to retail dealers direct.

"I know that you are interested in trying to eliminate cut-rate mail-order competition. If you are willing to do something to kill this competition in this territory, and you will heartily co-operate with me I can do more for you than any other man in the country.

"I now have the best organization of high-grade automobile supply salesmen in the United States, and I have the best plan of serving the retail dealers that has ever been devised. My men and



CHARLES E. HILL
Lincoln, Nebraska

myself are on the ground personally to help you.

"My plan is to get a signed agreement from each of my dealers. These agreements being for the purpose of showing manufacturers that my list of dealers will hereafter refuse to buy automobile supplies that they find listed in cut-price mail-order catalogs. I know that the signed protests of nine-tenths of the dealers of this territory against this mail-order competition will induce manufacturers to discontinue selling their products to mail-order houses. It is illogical, unreasonable, and unjust to allow automobile supplies to be sold at cut-prices by mail.

"It is also unfair to the local garage for the car-owner to send away to a mail-order house for tires, pumps, jacks, spark plugs, etc., in view of the fact that the garage man furnishes free air and in many cases free adjustments and in all cases free expert advice and many other kinds of free service to said car-owner. But car owners feel that they are entitled to buy where they can buy the cheapest.

Block the Mail-Order House

"Therefore the only way is to prevent the mail-order house from buying standard automobile supplies. Any legitimate and conscientious manufacturer can be prevailed upon to discontinue selling to mail-order houses providing such manufacturer is assured of the support of the retail dealers.

"Retail dealers can afford to stock a good supply of good salable articles provided they know that such articles cannot be bought at cut prices from mail-order houses. You can afford to spend your time in building up an accessory business provided you know that the goods upon which you build a business will not be sold at cut prices by mail-order houses after you have worked up a business and created a demand for said products. The thing for retail dealers to do is to refuse to buy any kind of automobile supplies that they find listed in cut price supply catalogs. I have searched the whole United States in order to find a list of manufacturers who are willing to co-operate in this campaign which I am starting and I can get all kinds of goods for you that are made by legitimate manufacturers who are willing to protect the retail dealer and who will agree not to sell to mail-order houses, provided the retail dealers will agree to give them support.

Believes in the Plan

"I feel that I can positively assure you that if you will sign the enclosed blank form that within six months every legitimate manufacturer of standard automobile accessories in the United States will join our organization and that within one year cut-rate mail-order houses and

cut-rate automobile supply companies will be almost eliminated.

"You can readily see what a great thing this will be for retail dealers. The successful operation of my plan will also tend to bring all legitimate jobbers of automobile supplies into the same organization. At present it is the natural tendency for jobbers to attempt to compete with mail-order houses. Therefore nine out of ten jobbers of automobile supplies all over the country are selling supplies at wholesale prices to car owners.

"My plan will also stop this pro-

cedure because I will show dealers that they can quit buying from jobbers entirely, unless such jobbers sell only to legitimate and established dealers. My plan will also encourage manufacturers to improve the quality of their goods instead of decreasing the quality in order to meet mail-order competition.

"It will only take a moment of your time to sign the attached agreement and mail it to me. There is no obligation on your part whereby you need to spend one cent, but if my plan succeeds it will mean many hundreds of dollars to you

in the future. It will put your accessory business on the same sound, solid, and legitimate basis as the hardware business or dry-goods business."

Hill states that thus far about 500 have entered into the plan and that they are all reputable men, most of them rated above \$10,000 and having their own places of business. He is popular with his clientele and pursues a merchandising plan which has done much toward building up his business.

Eight salesmen are maintained on the road under instructions to cooperate fully with the dealers. Each salesman

Hill's Form That Dealers Are Asked to Sign

Town Lawrence Date 6-8-15

Chas. E. Hill,
Lincoln, Neb.

Dear Sir:

I am heartily in favor of your plan to induce accessory manufacturers to refuse to recognize mail-order companies as accessory dealers and hereby agree that _____ will not carry in stock any accessory unless the manufacturer of same agrees in writing that he will not, directly, or indirectly, sell his product to mail-order houses at wholesale or dealers prices, and that he will not furnish cuts of his product to mail order houses.

Signed PEERLESS GARAGE
Town Lawrence
State Kans

Thus far Hill states that 500 dealers have expressed a willingness to cooperate with him in his agitation against the mail order house. By October 1 he says he expects to have the cooperation of 2,000. His fight is not aimed at the jobber—he is a jobber himself—but is intended to prevent standard goods being sold through mail order houses at a price the dealer or garage-man is unable to meet

owns and travels in his own car and frequently stops in a dealer's town and besides showing him how to sell the goods takes orders from customers which have made for the dealer as high as \$40 profit in the one day of demonstration. Hill plans to open a main office in Kansas City September 1, which is nearer the center of his territory, after which his establishment at 1535 P street, this city, will be operated as a branch. He also has a factory at 2344-48 O street and has branches in Topeka, Kan., and Salina, Kan.

JOBBER TO FIGHT MAIL ORDER HOUSE

**National Association Takes First
Step in Campaign Against
the Octopus**

SEEKS AID OF MANUFACTURERS

**Biggest Jobbers in Country Endorse
Plan to Eliminate Hurtful Competi-
tion—Other Plans Proposed**

CHICAGO, July 26—A campaign against the mail-order house and "leagues" is proposed by the National Association of Automobile Accessory Jobbers which just closed its first mid-summer convention in this city. The association has been in existence only since May and this was its first regular session and get-together for real work.

The organization recommended the starting of such a campaign, and will endeavor to dissuade manufacturers from offering standard goods to mail-order houses and the so-called "leagues" which put them out at cut prices in competition with legitimate accessory dealers. Two dozen of the biggest and best jobbers in the United States were represented in the convention which made the recommendation.

THE JOBBERS

Julius Andrae & Sons Co., Milwaukee.
Automobile Supply Co., Detroit.
Fred Campbell, St. Louis.
Electric Appliance Co., Chicago.
Phillip Gross Hardware Co., Milwaukee.
Herring Motor Co., Des Moines, Ia.
Weinstock-Nichols Co., San Francisco.
Motor & Machinists Supply Co., Kansas City, Mo.
Excelsior General Supplies Co., Chicago.
Nebraska Buick Auto Co., Lincoln, Neb.
Nichols, Dean & Gregg, St. Paul.
Weinstock-Nichols Co., Los Angeles.
Kansas City Automobile Supply Co., Kansas City, Mo.
Minneapolis Iron Store Co., Minneapolis.
Motor Car Supply Co., Chicago.
Reinhard Brothers Co., Minneapolis.
General Sales Co., Detroit.
Western Motor Supply Co., Minneapolis.
Gibson Co., Indianapolis.
Interstate Electric Co., New Orleans.
Walkerville Hardware Co., Walkerville, Ont.
Sieg Iron Co., Davenport, Ia.
Weinstock-Nichols Co., Oakland, Cal.
Washington Automobile Supply Co., Washington, Ill.

Several other important matters received attention.

All requests for program advertising

are to be referred by members to the association. This will eliminate a form of advertising which has become a nuisance and which is costly. The association will act similarly to the Philadelphia Automobile Trade Association, which must approve a program before a member will advertise in it.

A credit bureau is planned as protection against "dead beats," but final action was deferred until the October meeting. Losses through bad accounts are said to be enormous in the aggregate. W. K. Norris, of the McQuay-Norris Co., St. Louis, a piston ring maker, said that 10 per cent of the car owners in St. Louis are "dead beats" and that the dealers so rate a man who is "in bad" with two firms. Thereafter he can get credit from none of the members.

What Is a Jobber?

One of the most difficult tasks the association must cope with is the defining of jobber and dealer, so it was deemed advisable to appoint a committee of ten, consisting of five jobbers and five accessory manufacturers, to formulate a list of jobbers, to be presented at the next meeting.

Other subjects discussed were: Reversed telephone charges and how this evil may be eliminated, so as to make it equally fair for dealer, jobber and maker. Parcel post shipments, it was ordered, should be sent with a lump charge for carriage and insurance. Uniform terms have been adopted and these are not to exceed 2 per cent for cash in 10 days; 30 days, net. A standing committee of three was appointed to be known as the railroad committee, to handle all matters relating to freight.

The returned goods evil was taken under consideration and it was decided that when a bill is correctly filled by the jobber no credit will be allowed for returned goods unless a full explanation has been made and the consent of the association obtained, and, with this done, a charge of 10 per cent will be made for service and shipping expenses and the credited amount for the goods will be based on the prevailing price when the goods are returned.

Membership for Makers

The initiation fee has been reduced from \$500 to \$100 and the annual dues not to exceed \$300, which are to be paid in the form of assessments. The manufacturers taken as associate members are to pay \$100 yearly dues and no initiation fee.

The establishing of an associate membership for manufacturers was one of the acts of the convention, they having had no membership theretofore. The meeting began Tuesday and ended Wednesday. The first day's sessions were executive with open meetings Wednesday.

Dealers Will Appreciate Action of Jobbers

**Here Is How They Feel on the Subject
of the Mail Order House as Re-
vealed by Their Answers, to
Motor World**

When the dealers and garagemen of California were asked about their accessory businesses eight of them replied as is told below.

The big thought that is revealed in their statements is that they look to the jobbers to help them. It is significant of the motives of the National Association of Automobile Accessory Jobbers that this very problem is one of the first it is taking up. Here are the comments of the eight dealers and garagemen:

I do not find it profitable to carry accessories because the car owner is able to buy tires and supplies at garage discount.—Melvin M. Bonham, Covina.

Manufacturers should deal strictly with people who depend upon the automobile business for a living and should not cater to other stores.—Hoosier Vulcanizing Wks., Santa Ana.

Manufacturers of automobile supplies should not sell to stores outside the trade which compete with dealers and garagemen.—Campbell-Collins Co., San Jose.

The dealer and garageman is losing the accessory business to grocery stores, hardware stores and many other businesses. The assistance of the jobber should be secured in combating this abuse.—Tustin Garage, Tustin.

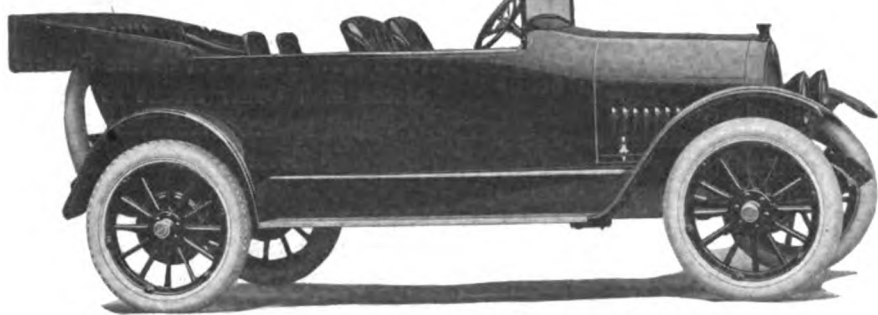
The dealer and garageman are losing accessory business largely on account of clubs and leagues. Manufacturers should cut out the jobbers' prices to these people and let them hang themselves. Accessories are our only resource.—Mosher & Freeze, per L. S. Freeze, Santa Barbara.

Nearly all jobbers will give groceryman wholesale prices of accessories. Why? We cannot buy groceries at wholesale prices. We find the accessory business profitable.—Twenty-second St. Garage, Richmond.

It is not profitable to carry a large stock of accessories because the large accessories wholesale to individual car owners, cutting into the business of the garage and small accessory dealers, who build up and stimulate trade for the wholesalers.—Neiswender Bros., per C. B. Neiswender, Los Angeles.

The handling of the accessory business through mail-order houses demoralizes the legitimate dealer's profit, which he is entitled to if he is to carry the goods in stock.—Osborn Iron Works, Redlands.

Much-altered Jeffery Four at \$1,035



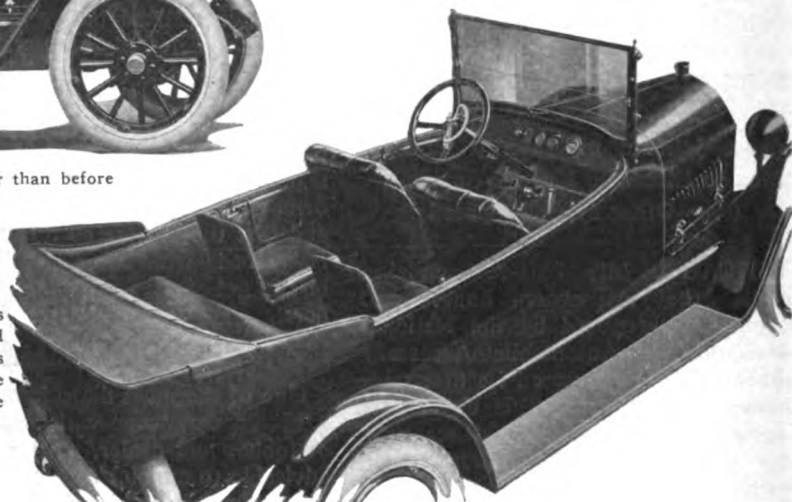
The lines of the new body are, if anything, cleaner than before

THE 4-cylinder model produced by the Thos. B. Jeffery Co., Kenosha, Wis., for 1916 is a radically different car from its immediate predecessor and the price has been reduced to \$1,035 with seven-passenger body and \$1,000 without the extra tonneau seats. Both the sixes are continued practically without change though the price of the smaller has been reduced from \$1,650 to \$1,350. The larger six still sells for \$2,400.

The four has an entirely new body which is larger than heretofore, a new dry plate clutch with a brake, a three-speed gearset takes the place of the four-speed gearset previously used, a gearset emergency brake has been adopted, equipment now includes a new Bijur electric lighting and engine starting set, and a number of other refinements have been made. Three varieties of changes have been made, those resulting in better performance, greater stability and better appearance.

Under the first head comes the motor changes, which outlined briefly are: a change from separate gearset to unit power plant construction, alterations in carburetion, ignition, and the adoption of a new Bijur two-unit cranking and lighting system. The camshaft has been redesigned, the crankcase changed in ma-

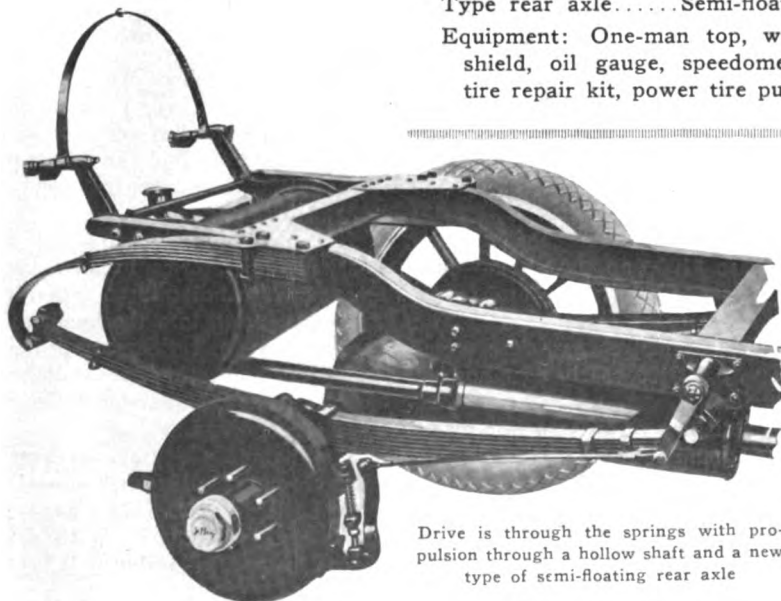
Front seats are divided and there is an abundance of room in the tonneau



THE 1916 JEFFERY FOUR

Price—

Seven-passenger	\$1,035
Five-passenger	1,000
Color	Brewster green
How cast	Block
Bore	3 3/4
Stroke	5 1/4
S. A. E. rating	22.5
Magneto	Bosch NU4
Carbureter	Stromberg
Starting-lighting	Bijur
Clutch	Plate
Gearset	3-speed
Wheelbase	116
Tires	34 x 4
Wheels	Wood
Steering	Left
Control	Center
Type rear axle	Semi-floating
Equipment: One-man top, wind-shield, oil gauge, speedometer, tire repair kit, power tire pump.	



Drive is through the springs with propulsion through a hollow shaft and a new type of semi-floating rear axle



Lighting and ignition controls have been rearranged on a new cowboard

terial and appearance and the cooling system has been gone over.

Also under performance changes comes the new clutch, which is fitted with a brake; longer rear springs, a new gearset of the three-speed type instead of four, and behind it the emergency brake. The whole driving system is new from flywheel to axle.

The changes tending to greater stability of the mechanism are seen in the use of different metals in various places. The crankcase, for example, is of cast iron instead of aluminum. The weight of the car has been reduced and there has been a repropportioning of sprung to unsprung weight. The appearance changes are apparent. The body is a cleverly laid out one of new lines, with new equipment and much roomier than the older one.

The motor dimensions are the same as before, but the power, especially for hard

pulling, has been increased by using a new camshaft with different-shaped cams and these placed so as to change the valve timing as follows:

	1916	1915
Inlet opens.....	12° late	18° late
Inlet closes..	46° late	46° late
Exhaust opens..	46° early	47° early
Exhaust closes..	12° late	15° late

With the change in camshaft design the push rods now are of the mushroom type instead of roller as previously. A power addition also has been obtained, and with it a slight increase in fuel economy, by joining the inlet and exhaust manifolds; that is, having them become integral at one point. This means that the heat from the exhaust manifold is imparted to the inlet. The carbureter, which is on the right side, is new, being a type K Stromberg, and mounted in a better position. It is slightly higher and feeds through cored passages which have been smoothed and straightened out so as to increase the speed of the ingoing gases. The carbureter now is fed by the Carter fuel feed system instead of by pressure.

The exhaust manifold now attaches to the exhaust pipe without flange and bolts, the joint being a pinch fit.

On the left side of the motor a change is apparent. The Folberth pump which was driven from the pump shaft has been removed and now is on top of No. 4 cylinder. The magneto also driven by the pump shaft is a Bosch NU4 instead of a Bosch duplex and, by the way, this is the only source of ignition. The removal of the tire pump has allowed of the magneto being placed a little more forward and in a more accessible position.

The valves are still of Rich tungsten steel, but the springs have fewer con-

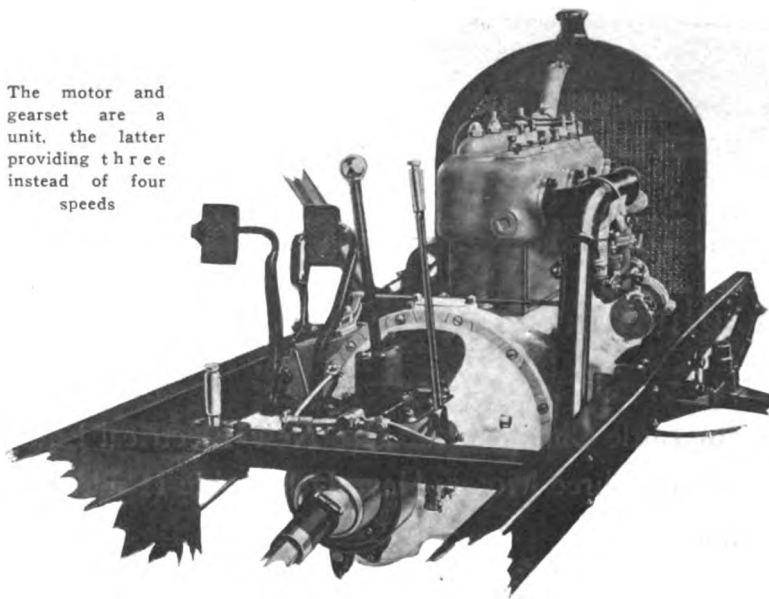
volutions and have lighter tension so as to work better in conjunction with the mushroom followers.

In the cooling system there is a new two-blade, aeroplane-type fan made of aluminum instead of the former pressed-steel five-blade type. The radiator is a new tubular type of 8 gallons capacity

tem uses a U. S. L. 6-80 battery instead of a 6-12 volt 100 ampere hour.

The new clutch is a three-plate dry-disk with one steel plate and two faced with fabric. In connection with this clutch, which supplants the cone of last year, is a clutch brake of simple construction.

The motor and gearset are a unit, the latter providing three instead of four speeds



instead of 9; it is 25 pounds lighter in weight when filled and has greater cooling area. This radiator is made by the National Can Co., while the former one was made in the Jeffery shops.

The crankcase upper half now is of cast iron instead of aluminum, the change having been made to make a more rigid construction. The crankcase cover still is aluminum. Also, there is a new form of bell housing to accommodate the clutch and gearset which was not the case before.

In the interior the motor has not been changed much. The crankshaft is a 2-inch with three bearings of the following sizes: Front, $3\frac{1}{4}$; center, $3\frac{1}{4}$; end, $4\frac{1}{2}$. The pistons and rods remain the same and show nothing out of the ordinary. The piston weight is 3 pounds $9\frac{1}{2}$ ounces, including pin and rings, the piston length $4\frac{3}{4}$ inches, and the pin diameter $16/16$ inch. The rings are a step-joint type. The connecting rods weigh 4 pounds 10 ounces and are $12\frac{1}{4}$ inches center to center.

The oiling system is of the force feed and splash in which a plunger pump feeds the main bearings directly by leads and also supplies troughs under the connecting rods. A slight change here is the feeding of the idler gear bearing in the timing case by a lead from the pump. It was found this bearing wore too rapidly in the older model in which the bearing was fed by crankcase oil.

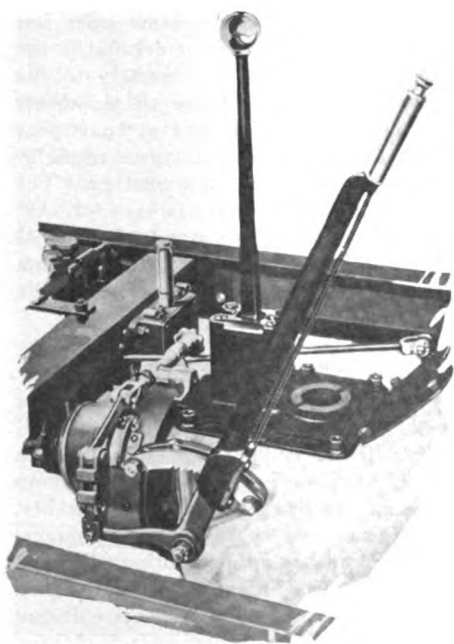
In changing from the flywheel type of cranking and lighting system to the two-unit Bijur there has been made a saving in weight and power. The new sys-

tem uses a U. S. L. 6-80 battery instead of a 6-12 volt 100 ampere hour. Behind the clutch is a new three-speed gearset made in the Jeffery plant. This differs from the former one in that it has the main shaft below the shifter instead of beside it. This makes a cleaner installation. It is much lighter than the former four-speed and is fitted with tapered-roller bearings instead of ball. The gears are $\frac{5}{8}$ face nickel-steel, and the shift now is by center-lever in a ball joint instead of by H-slot.

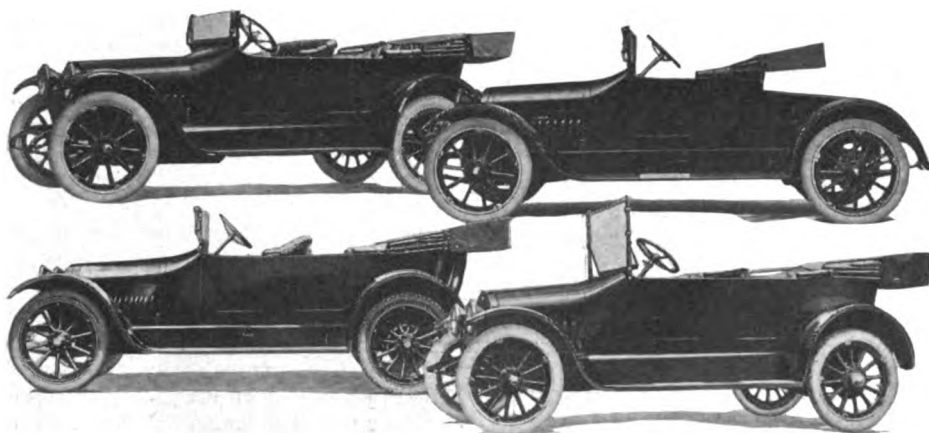
In the fitting of this new gearset the Jeffery company has applied a gearset brake which is adjustable in a few minutes and is accessible by lifting the front floor boards. This brake, because of its effectiveness, is used as the emergency and is operated by the usual center lever. It uses fabric facing for the band which is $2\frac{1}{2}$ inches wide. The drum is 7 inches.

Continuing in the drive there is a hollow propeller shaft of $1\frac{1}{2}$ -inch diameter instead of a $1\frac{3}{8}$ -inch solid shaft with two Kinsley-Bennett joints, and a new type of semi-floating rear axle instead of a floating type. This axle is mounted on roller bearings instead of ball and is 50 pounds lighter than the former axle, thus reducing the unsprung weight. The gears within are spiral-bevel instead of straight bevel.

The propulsion members used in the 1915 car have been discarded and the drive now is taken through the rear springs, to simplify construction and save weight. To do this the shackle bolts have been increased from $\frac{7}{8}$ to 1 inch diameter and the main spring leaves made of alloy steel. The rear springs have been lengthened $2\frac{3}{4}$ inches to $52\frac{3}{4}$.



Behind the gearset there is a new transmission brake which is readily adjustable



The Regal line for 1916. Upper left, standard four; upper right, roadster; lower left, the 8-cylinder touring car; lower right, light four. All are electrically lighted and started by Dyneto outfits

An Eight and Two Fours in Regal Line

Large Four Little Changed But Has New Electrical Equipment
--All Three Motors Have Detachable Heads.

THE Regal Motor Co., Detroit, will have two fours at \$650 and \$985, and an eight at \$1,200 for 1916. Of these the big four is practically identical with the 1915 chassis. The main change is in the electrical equipment, which is now a Dyneto single unit combining the functions of lighting and starting. Ignition is cared for by an Atwater Kent automatic advance distributor located at the front end of the camshaft as in the last model. This Dyneto outfit is used on the eight and on the small four also. In the case of the eight it is not placed between the cylinder blocks, but is attached to the crankcase very much as on the fours, so its comparatively large size does not interfere with valve accessibility.

Turning to dimensional detail the light four has bore and stroke $3\frac{3}{4} \times 4\frac{1}{4}$, the standard four $3\frac{3}{4} \times 5$, and the eight $3 \times 4\frac{1}{2}$. The wheelbase of the light four is 106 inches and that of the other two cars 112 inches. Naturally the light four has a smaller body than the larger model but the eight and the large four have almost the same body equipment.

As before, the standard or larger four is made in the Regal plant, but the small four and the eight are the new Port Huron motors. All three engines have detachable cylinder heads covering valves arranged in the normal manner, and a Stewart carbureter is used for each, with the addition of a vacuum feed except for the light four, the latter having a gasoline tank in the cowl instead of beneath the front seat. On the eight the vacuum feed tank is located under the cowl and in the middle of the dashboard so it is accessible from the back.

On the Regal eight motor the tappets can all be adjusted without removing any part, and if the carbureter were removed together with the intake pipe the job would be really easy. The removal of the carbureter is, in itself, so simple a proceeding that most men would take it off if they were about to set the whole sixteen tappets, though if it were a question of one or two only it would not be worth while.

It has been pointed out once or twice that when the angle between the cylinders of a V engine is 90 degrees the sequence of valve operations is at 135 degrees, so that one cam can operate two opposite valves if the camshaft is placed high enough to put the valves themselves at 135 degrees. With a big motor this might be difficult because of the great amount of space it would make between the crankshaft and camshaft, but the idea has been worked into this motor very neatly. Having the valves at a larger angle than the cylinders also has the beneficial effect of inclining the pockets with reference to the cylinder bores and so cutting down their area. Of course this inclination of the valves so much further towards the horizontal makes tappet adjustment easier than ever. Helical spur gears are used for the camshaft drive on all models, the materials being steel and cast iron.

For the light four the lubrication is splash, the level in the dip troughs being maintained by a plunger pump driven off the camshaft. On the big four the rear main bearing and the rear camshaft bearing have a force feed from the plunger pump, while the other two crankshaft and the camshaft bearings have

pockets to catch splashed oil. Troughs and connecting rod dippers are used in addition.

For the eight there are two separate plunger oil pumps located side by side on the front end of the motor, these forcing to the main bearings on the crankshaft, of which there are two. The crankshaft is drilled to the pin bearings and there are dip troughs also, as in the large four. In both, these pump leads see to the supply for the front end gears and the Dyneto chains.

Like the large four of 1915 the 1916 model and the eight have gearsets located on the axle and the drive shaft is enclosed in a torque tube. Unlike most constructions of this kind there are two universals, the torque tube being attached to the frame by a fork with two pivot bearings. There are no bearings between the drive shaft and its enclosing tube so the latter acts simply as a protective covering and to take the twisting stress of the axle. For drive stresses two radius rods are arranged between the axle and the side rails of the frame so all possible stresses are taken care of.

The small car has a unit power plant and a slightly different axle. The axle is a full floating pattern with ball bearings throughout. All three have leather-faced cone clutches, the two larger models being provided with cushion springs beneath the facing.

The big four and the eight have almost the same five-passenger body and the keynote of their style is low appearance. A fairly straight-line side with an easy curve on the cowl running smoothly into the hood, domed fenders and absence of any sharp contrasts of curvature are characteristics. Internally there is plenty of leg room and a good depth of upholstery. The light four has a body on somewhat the same lines but smaller, of course. Two details of the larger bodies which add greatly to the smart appearance are the all aluminum toe boards in the driver's compartment and the use of black enamel running-boards with heavy aluminum treads.

The tire equipment is as follows: Light four, $30 \times 3\frac{1}{2}$; standard four, 33×4 , and eight, 33×4 , all on demountable rims with the spare rim carrier at the back of the body.

Goodyear Northwest Men Meet

SEATTLE, July 26—A meeting of the northwest branch managers of the Goodyear Tire & Rubber Co. was held in Seattle during the past week. Among those in attendance were J. R. Reilly, assistant Pacific coast district manager; H. B. Well, sales promotion division, Akron; C. H. Williams, Portland; H. A. Jurgewitz, Spokane; P. A. Kerns, Butte; C. B. Reynolds, Tacoma; C. C. Miller, Seattle, and Parker Braman, J. T. Kearney and H. "Scotch" McDiarmid, Seattle.

Repairing and Adjusting

Washing Magneto Parts in Gasoline

Due to its rapid evaporation, gasoline is frequently selected to wash the magneto free of external dirt or dust. Quite frequently, too, the contact-breaker and the region thereabouts are given a good dousing. The need for caution is because gasoline of today does not evaporate as readily as it did when the refiners supplied the higher test fuel, and in consequence the surface of the washed magneto retains a film of gasoline longer than at first is suspected. Should the engine be turned over directly after cleaning the magneto, a spark from the contact-breaker would set fire to the film of gasoline which covers the magneto and what would result is hard to say—maybe little, maybe much.

If the wires to the spark plugs have been removed, there is an additional possibility of a conflagration, for gasoline may have been forced into the chamber of the external spark-gap, and should any action cause the magneto's armature to be rotated, a spark would pass across the spark-gap and light the liquid.

There is no danger of all this occurring if the magneto is wiped dry, gasoline used sparingly and the magneto or car not put into immediate operation. Just common horse sense saves a lot of trouble in life.

Another point—should the magneto be totally taken apart it is not entirely wise to wash all parts in gasoline and then assemble. It would be preferable to wash all parts thoroughly in gasoline and then in clean kerosene oil, for when steel parts are washed in gasoline they become absolutely dry as soon as the gasoline evaporates, which causes these parts to be more susceptible to rust. Ball bearings in particular are sufferers, so that when these are replaced they should be given a thorough covering of light oil—not soaked in it, but covered with a film. It not only lubricates but protects.

The armature can be washed in gasoline, but it is not good practice to permit it to soak, as the armature covering may be softened and a possibility exists of damaging the condenser also.

Magneto Repairman Should Be Expert

One point that cannot be sufficiently emphasized is the warning that only those who are thoroughly conversant with magnetos should attempt to dismantle them. So much depends upon an ignition system that when it requires cleaning or adjusting it is best to place it in the hands of real experts, rather

than take the responsibility yourself. This, of course, applies to complete disassembling and important internal adjustments not covered in the regular instruction books.

Remember, a blacksmith may be able to make an excellent wagon axle, but he hardly could be expected to repair a split second stop watch.

How to Find the Polarity of Wires

A simple method of determining the polarity of a wire is as follows:

Take a piece of blotting paper, place a few grains of iodide of potassium on it and wet the paper and the salt will quickly dissolve. The iodide may be purchased at any drug store. Then touch the wet paper with the two wires and the positive wire will instantly produce a black stain on the paper.

If the two wires are introduced into a bottle containing such a solution, there will be a steady stream of dark red given off from the positive wire, this being metallic iodine reduced by the electric current.

How to Charge Ford Magneto in Car

The Ford magneto may be charged in the car although the Ford company recommends a new set of magnets.

Six fully charged 6-volt, 60-ampere storage batteries, a compass and some wire are required for charging the magnets. The storage batteries are connected in series and the negative wire is grounded on the car. The positive wire should have a rod attached to its end and then the magneto plug should be removed and the rod thrust in to make contact with the magneto inside the cover. Place the compass a small distance behind and at the left of the hole for the magneto plug and have someone turn the motor over until the needle points to the front of the car. Then open and close the circuit by removing the negative wire from the car. The circuit should be held closed for 6 seconds at a time and then broken, 25 times.

Simple Method for Lining Up Gearset

A good way to line up the gearset on cars with separate units is to take a scriber or stiff wire with a point on one end and clamp the other end to the main gearset shaft. Bring the point of the scriber to the rear face of the flywheel and then adjust the gearcase until the point barely touches the flywheel in every position of rotation. Then place the point of the scriber in contact with the cone face of the flywheel and adjust the case so that the point just touches

at every point. This determines circularity. When this is done, test the rear face of the flywheel again and so on until the alignment is perfect. While doing this do not lose sight of the necessity for also keeping the shifting mechanism in line.

Removing Wheel on New Sheldon Axle

The method of removing a wheel from the semi-floating axle recently brought out by the Sheldon Axle Co., Wilkes-Barre, Pa., is unusual. A bolt is inserted in the hub as shown at A and the wheel is drawn off merely by tightening this bolt. The object of this new design is to simplify the removal of the wheels and at the same time retain all the advantages of the semi-floating construction.

Kerosene Good for Asbestos Brakes

A gunful of kerosene squirted on Raybestos brake bands occasionally will help them grip the drum much better. The kerosene has a tendency to dissolve the oily matter on the bands, leaving the surface clean.

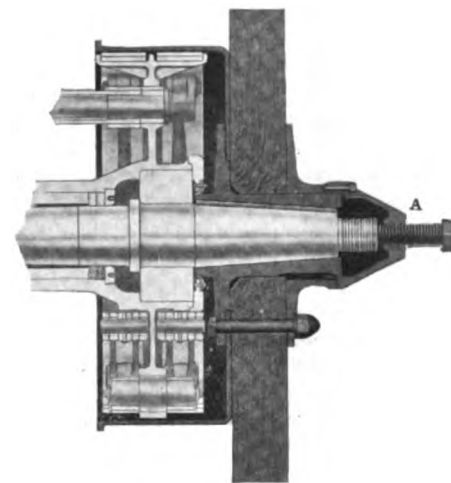
Squeaky brakes are also remedied by the use of kerosene.

Soap Instead of Rain-vision Windshields

A piece of cloth rubbed with ordinary kitchen soap is a good thing to have in the car. By rubbing the cloth against the windshield a slight coating of soap is made on the glass and any rain falling against it tends to run off.

Mica Causes Commutator Sparking

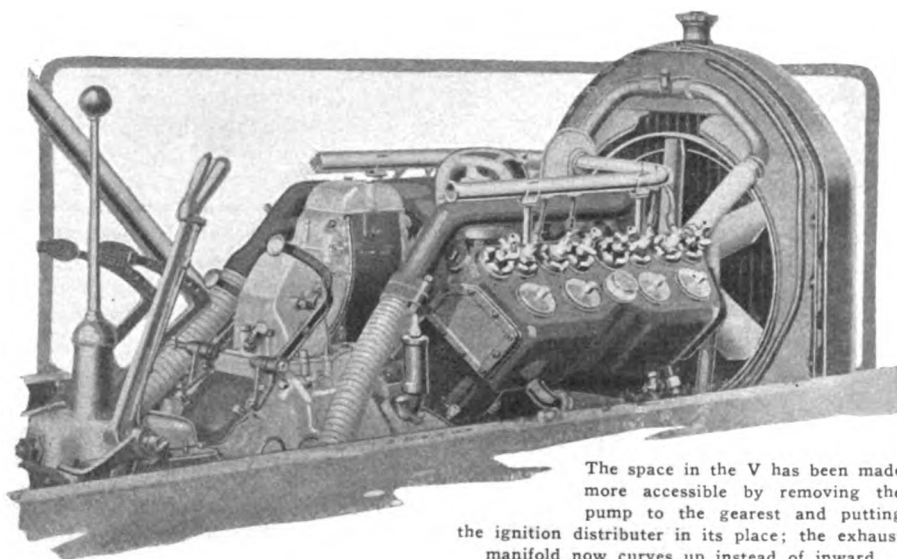
Sparking is sometimes produced by the wearing away of the copper of the commutator faster than the mica which separates the commutator segments. This prevents the brushes from making good contact and sparking results. A simple remedy is to take a sharp instrument and remove the protruding mica.—J. J. Clouse, Parkersburg Motor Car Co., Parkersburg, W. Va.



New Sheldon semi-floating axle, showing how wheel is simply removed by screwing bolt into hub

Refined Cadillac Priced \$2,080

Accessibility and Comfort Both Increased



The space in the V has been made more accessible by removing the pump to the gearast and putting the ignition distributor in its place; the exhaust manifold now curves up instead of inward

IT has not been found advisable or necessary to make any vital changes in the mechanical construction of the Cadillac "8," which is entering its second year. What differences there are have really come through a desire to promote accessibility and refinement. Open-body types have been increased in price \$105, making them cost \$2,080 instead of \$1,975, which has been the standard Cadillac open car price for a number of years. However, the new figure applies only to the seven-passenger car, the five-passenger salon and the roadster. On the closed types the same prices as last season apply.

The reason given for this stiffening of price is that it was set too low in the first place. Last September, when the eight first came out, there was no manufacturing experience with the type to guide the Cadillac company, and as the price, of necessity, had to be made at the same time the car was announced, production cost could only be estimated.

Chief among the mechanical changes are those which have to do with making the space in the V between the two blocks of cylinders more open so that valves are much easier to reach. The tire pump, which previously was mounted at the front of the V and just back of the fan, has been removed from the motor and is attached to the gearbox. The ignition distributor which was a part of the Delco motor-generator unit has been separated from it and occupies the space vacated by the pump. This shortens the motor-generator unit proper, and as it has been moved further to the rear also, this leaves quite an appreciable space between the carburetor, which is practically in the center, and the distributor at one end and generator at the other.

To further add to the accessibility of the tappet compartments, the exhaust manifolds have been upswept instead of running straight back in line with the

CADILLAC "8" FOR 1916

Price—	
Touring	\$2,080
Roadster	2,080
Limousine	3,450
Coupelette	2,400
Berlin	3,600
Brougham	2,950
Color	Dark green
Make of motor	Own
Number of cylinders	Eight
Shape	L-head
How cast	Blocks of four
Bore	3 1/8
Stroke	5 1/2
S. A. E. rating	31.28
Ignition	Delco
Carburetor	Own
Starting-lighting	Delco
Clutch	Dry-disk
Gearset	3-speed
Wheelbase	122
Tires	36 x 4 1/2
Wheels	Wood
Steering	Left
Control	Center
Make of axles	Timken & Cadillac
Type rear axle	Floating
Options	60-inch tread

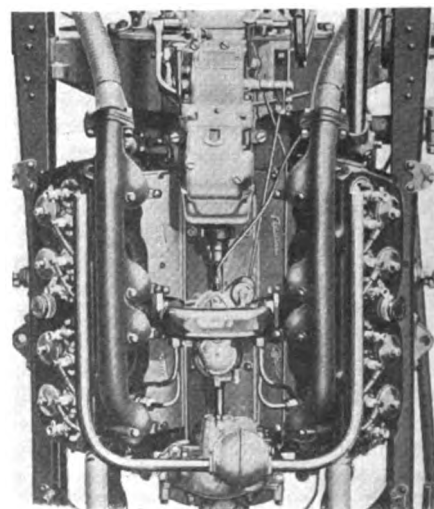
Equipment: One-man top, power tire pump, windshield, inspection and tonneau lamps, Waltham clock, gasoline gauge, electric horn, foot and robe rails, license holders, tools, speedometer, tire repair kit.

exhaust openings from the cylinders. Therefore, instead of protruding outward into the V space, these manifolds bend away from this space so that, so far as they are concerned, there is really little less space than if they were not there.

This manifold change, together with the making of more space between the apparatus in the V, allows for reasonable access to the tappets and bespeaks the cleverness of the designers in solving the problem of how best to make the tappets easily accessible without disturbing the fundamental principles of the efficient design.

In order to throw the tire pump into driving connection with the intermediate gear on the countershaft, it is only necessary to turn a shifting button which is flush with the floorboard of the driver's compartment. This button has a slot in it to receive a screwdriver, the idea being to keep from having any operating attachment protruding through the floorboard to obstruct. As a screwdriver is usually handy, it is but a few seconds' job to throw the pump into mesh by turning the shift button. The air lead from the pump is brought to the tool compartment in the right runningboard apron where the air hose would be stored, so that connecting up is convenient.

There has also been a wiring refinement that does its part in giving the motor a clean-cut appearance. None of the wires from distributor to plugs shows with the exception of the very ends of the terminals where they attach to the spark plugs. This is done by placing an aluminum housing completely over the top of the distributor and then running wiring manifolds from each side of this back along the cylinder blocks. The aluminum cover, which encloses the terminals of the distributor along with the rest, is held down by a spring clip. It is only necessary to slip this spring off when the cover can be raised for the inspection or removal of the terminals.



This view shows the accessibility of the valve mechanism and other parts

As the wire manifolds screw into this aluminum cover, they must come upward at the same time, and this is cared for by mounting them in spring clip sockets on their supports.

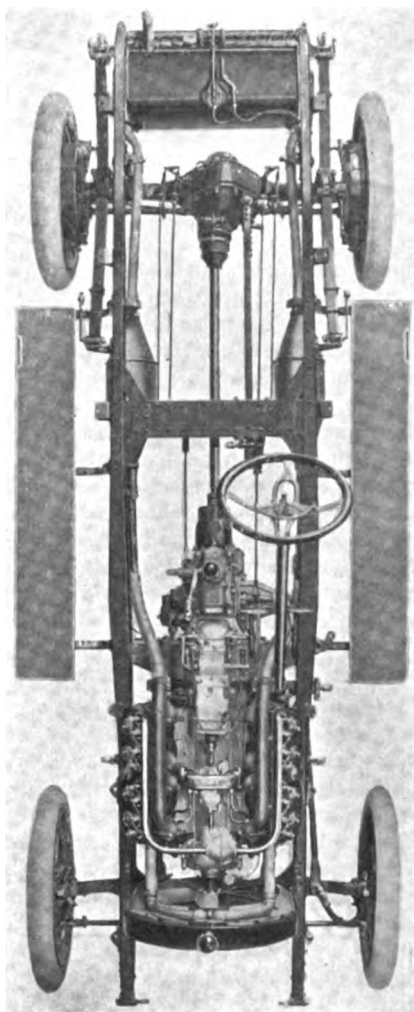
Other mechanical changes include a reduction of the second speed gear ratio so as to give greater pulling power on second speed; the moving of the brake and clutch pedals 2 inches forward so as to give more leg room for the tall driver; the placing of the horn buttons in the center of the steering wheel instead of on the body at the left of the driver; the making of the radiator higher, and the fitting of mud splashers to the lower front of the radiator and along the inside of the frame front ends.

A finishing touch is given the radiator by rounding the corners, and in addition it is still further dressed up by the placing of the Cadillac coat of arms on the front of the top radiator tank in the position of the usual nameplate.

Body differences also include the shifting of the cowl dash 2 inches forward, which is in keeping with the lengthening of the control pedal reach. The auxiliary seats have been redesigned and made very comfortable for even a person of rather large proportions. The leg room for these extra seats is surprisingly adequate, as the foot space really extends somewhat under the back of the front seat.

There is really an abundance of room in the rear seat of the new body, which is somewhat wider than the 1915 type. Three people of good size can easily be accommodated in the seat. This, together with the added front seat space, has all been accomplished without adding any material amount to the total weight of the car.

Bolting to the copper-alloy aluminum crankcase at an angle of 90 degrees, the two blocks of four cylinders each resemble a clean-cut four in itself. The crankcase is split horizontally into upper and lower sections, the lower acting as the oil base and the upper carrying the three-bearing crankshaft.



Changes that have been made are confined almost exclusively to the motor

The crankshaft is of large proportions, which is one of the secrets of the marked absence of vibration in the engine at speed, and to it the connecting rods attach, two to a throw bearing. The attachment method is by means of a forked outer rod on one side and a small-end rod on the other, the latter fitting between the arms of the former. The bushing is fixed to the big-end rod, and the small rod has its bearing on the outer

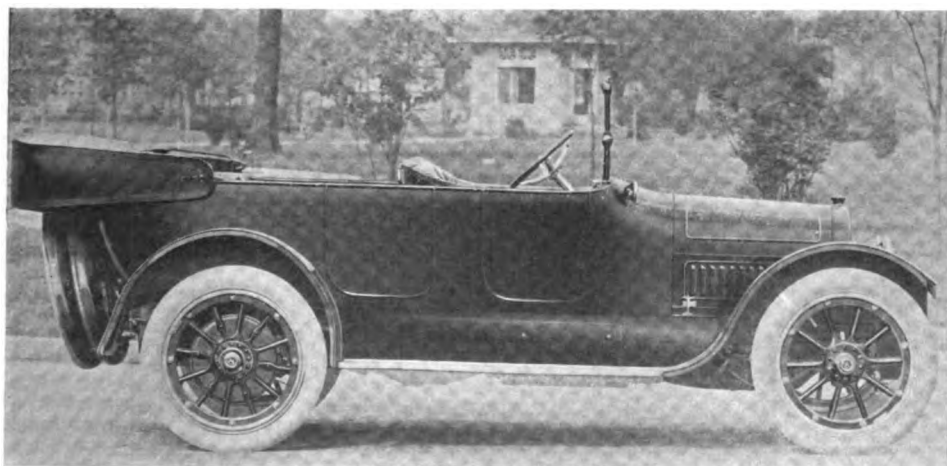
surface of this bushing on which it is free to oscillate. The bearing for the forked rod is therefore on the shaft itself.

Vertically above the camshaft and crankshaft is the generator shaft, which runs exposed below the carburetor and above the crankcase top plate. This shaft operates the fan and distributor shaft at the front and the generator at the rear of the V. Silent chains operate the shafting. The camshaft carries two sprockets, the outer taking the chain from the crankshaft and the inner driving the generator-shaft chain. Below the crankshaft is the transverse shaft which drives the centrifugal water pumps at both ends, these pumps each caring for four cylinders. The pump shaft is driven by spiral gear connection with the crankshaft.

Oiling of the Cadillac motor is by pressure feeding to all of the main bearings and thence to the rod bearings through drilling of the shaft. Front end chains and camshaft are oiled by leads from a pipe extending parallel with and above the shaft. It gets the overflow from a pressure relief valve which controls the pressure on the supply to the main bearings. In connection with the cooling system, the thermostatic control feature is still used.

Nothing has been altered in the power transmission units with the exception of the lowering of the ratio of the intermediate gear already mentioned. A dry-plate disk clutch is used, and back of the three-speed gearset the drive to the rear is through a tubular shaft with two universals, the forward one being housed. Spiral-bevel gears are incorporated in the floating rear axle.

The characteristic Cadillac platform rear suspension is retained. Other specifications which it might be well to mention are the 17 x 2½-inch brakes and the 20-gallon gasoline tank at the rear with pressure feed to the carburetor. Added equipment on the new model in addition to that previously supplied consists of a Waltham clock and an inspection lamp.



The rear seat has been widened and the front seat space increased. Three large persons are easily accommodated on the tonneau seat. The external appearance has not been changed greatly

Facts About Cars

Changing Wheelbase Affects Steering

Lengthening the wheelbase throws the steering layout out of arrangement a considerable distance and theoretically prevents the car from turning about a fixed center as it should when the steering gear is correctly laid out. The effect of altering the steering of the wheelbase becomes apparent in Fig. 1. Assuming a car, which in the normal condition has its wheels at AB, the steering layout is so arranged that when the wheels are turned to any position, such as CD, the spindle axes produced should meet at a point E somewhere along the line EF or the axis of the rear axle produced. If the wheelbase is lengthened 10 inches, so that the line EF is moved back to E₁F₁ instead of intersecting at a point, the lines of the spindle produced will fall upon the line E₁F₁ at some such point as ee. Therefore, instead of tending to rotate about one point, the car tends to rotate about two points, which is impossible, and therefore sliding action results.

Shock Absorbers and Coil Springs

Shock absorbers and coil springs have entirely different actions on the riding qualities of the car; the former acts as a brake and thus reduces the shock while the latter increases the flexibility of the springs so that small shocks that would ordinarily be transmitted to the car body are absorbed by them. It is obvious that the preferable arrangement is to use both shock absorbers and coil springs, but if this is not desirable it must be decided by the way the car rides which will be of greater advantage. If the springs are too stiff, coil springs should be added, and if the rebound is objectionable regular shock absorbers should be fitted.

Steel Studded vs. Plain Tread Tires

The advantages of steel-studded and other similar forms of treads and their disadvantages are questions on which enlightenment is frequently sought. In favor of the steel-studded tire it may be said that the casing of the tire is completely protected from the direct wearing action of the road, and the danger of skidding is practically eliminated.

The objections to this type of tire are that the extra covering reduces the resiliency slightly and increases the internal friction.

The question of steel-studded and other forms of heavy treads brings up the question of how thick and how strong a tread should be, and how much wear and tear and abuse it should be able

to withstand. Most tires are not made as thick and as strong as they might be because if this were done the resiliency would be somewhat destroyed. It would take more gasoline to propel a car with such a set of tires and if hard driving were indulged in the treads would suffer from overheating. The solution of the tire problem, if the efforts of the tire makers is taken as a criterion, is not to produce a tire that will wear indefinitely and possess infinite strength, but one that is reasonably strong and reasonably resilient. Both these factors must be taken into consideration and a compromise effected, which is preferable to going to either extreme.

Steepest Climb Is 62 Per Cent

Sixty-two per cent is about the steepest grade a car will ascend, but just what the limit is in any case depends on the type of tires used, character of the road surface and proportion of weight on the rear wheels. Obviously a car equipped with non-skid tires or chains will climb a steeper hill than one with plain treads in the rear. Likewise wheels are less likely to slip on hard macadam or brick than on a loose sandy surface.

Tires Unharmed by Weight of Car

Nothing is saved by removing the weight of the car from the tires providing that the tires are properly inflated and there is no oil or water on the floor to rot them. The reduction in pressure within the tire when the weight is removed is negligible, and when the tires are carrying the weight the fabric should not be strained any more than when there is no weight, providing that the tires are inflated sufficiently; if the

tires are insufficiently inflated undue flexing of the fabric will occur.

How to Figure Piston Displacement

Piston displacement is merely the volume displaced by all the pistons in moving the full length of the stroke. The volume of a single cylinder is equal to the area of the bore multiplied by the length of the stroke, and the total displacement of a four-cylinder motor will be four times this and a six times.

$$\text{Piston displacement} = \frac{D^2 \times S \times N \times 3.14}{4}$$

where D = bore in inches

S = stroke in inches

N = number of cylinders

Example: Required to find the piston displacement of a 3½ x 5-inch, four-cylinder motor. D = 3.5, S = 5 and N = 4.

$$\begin{aligned} \text{Piston displacement} &= \frac{3.5^2 \times 5 \times 4 \times 3.14}{4} \\ &= \frac{3.5 \times 3.5 \times 5 \times 4 \times 3.14}{4} \\ &= 173.58 \text{ cubic inches.} \end{aligned}$$

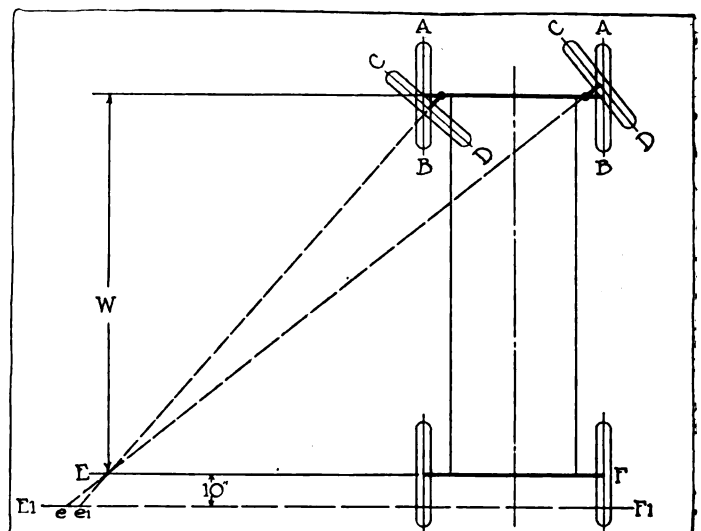
Steel Never Crystallizes

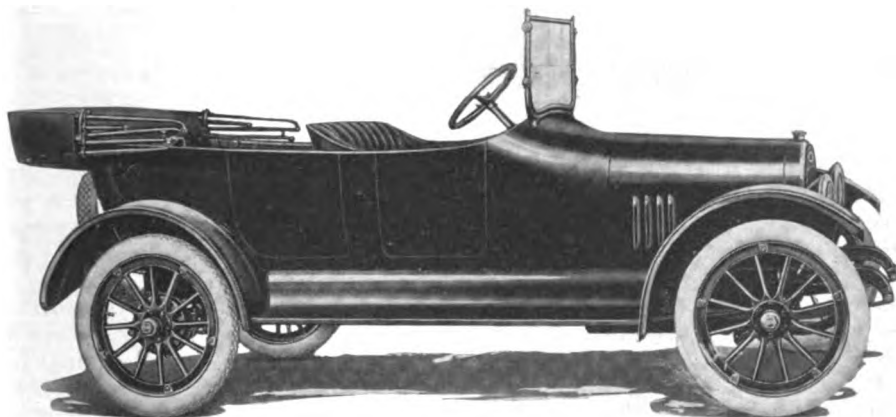
There is grave doubt as to whether any piece of steel has ever failed due to crystallization, although it is possible to fatigue any metal part in the way a piece of wire is bent back and forth when it is to be broken and there are no wire cutters at hand. This is not crystallization, however, as the metal exhibits the same structure at the point of fracture that it possessed before.

Speed Increase with Tire Size

The increase in speed with a larger tire size is proportional to the ratio of the old and new tires. For instance, if a 31-inch tire takes the place of a 30-inch the new speed will be 31/30 of the old, or if the old maximum was 60 miles per hour, the new should be 62.

Diagram showing the effect on the steering of lengthening the wheelbase of a car. The car tries to turn about two distinct centers, and as this is an impossibility, sliding of the tires occurs





The touring car and the roadster are built on the same general lines, though the two-passenger car is smaller, having a 92-inch wheelbase while the touring car has 105 inches

Dort Electrified Touring Car Now \$650

Formerly Cost \$680 Without Electrical Equipment—Roadster Price Unchanged and Cars Are Unaltered

THE 1916 roadster and touring car models made by the Dort Motor Car Co., Flint, Mich., show no changes in design over the 1915 types. The price of the touring car, however, has been reduced to \$650 with full equipment, but the roadster still costs \$540 with electric starting and lighting. Up to this time the touring model has sold for \$680 without starting apparatus or demountable rims.

These Dort cars, which have a number of special features about them, are completely designed by the concern's engineering department. Though the firm name is comparatively new to the industry, the first models having made their debut at the national automobile shows this year, the Dort company is really composed largely of the same stockholders as the Durant-Dort Carriage Co., which has been prominently connected with the carriage industry for 28 years, it is said. In fact, a great deal of the manufacturing is done in the same plants, so that the Dort machines really come from an established manufacturing organization, and the taking on of motor vehicle manufacture is but a logical step.

So far as general design is concerned both the roadster and touring car follow the same lines, although the roadster chassis is shorter and lighter and its motor is smaller.

The touring model, in which a test run was made, has an exceedingly sweet-running power plant, which handles the machine in excellent shape with a surprising lack of vibration and noise. Of moderately high-speed type, this motor proved itself to be very flexible, com-

ing down to a 4-mile gait without any hesitation and holding it, with rapid accelerative possibilities to above 50 miles per hour.

The Dort motor used in the touring car is capable of 20 horsepower at 1,000 r. p. m., while at 1,600 r. p. m. it develops 28 horsepower. It is rated at 16.9 horsepower S. A. E. and the displacement is 165.9 cubic inches. The unit power plant construction is carried out with the gearbox and clutch attaching to the engine proper and all being supported on three points. Somewhat unusual is the use of a detachable cylinder head along with separate aluminum crankcase. Ordinarily when the head is made detachable, the cylinders and upper half of the crankcase form one piece, but the Dort design should be lighter through the use of more aluminum.

A striking feature of the motor is the use of an extra heavy crankshaft for its size, this serving as a big factor against vibration. It is a drop forging of .40 to .50 carbon steel and $1\frac{3}{4}$ inches in diameter, supported by two main bearings. Likewise the connecting rods are forged from the same steel, and accurate balance of all of the reciprocating parts is said to be demanded to within $\frac{1}{4}$ ounce. Long pistons are fitted, these serving to distribute the wear and reducing it to the minimum. Three rings are used on each piston, all above the wrist-pin.

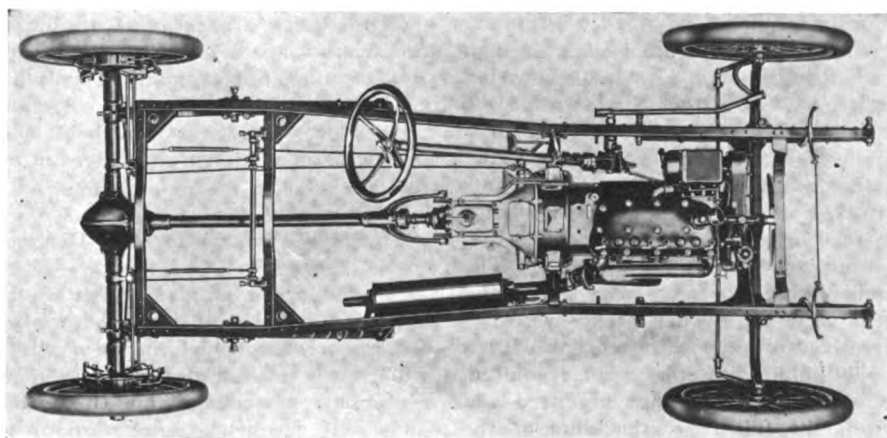
The valves are large— $1\frac{11}{32}$ inch in the clear—and have a lift of $\frac{1}{4}$ inch. Carbon steel stems are welded to the cast-iron heads, the two-bearing carbon steel camshaft operating them through the intermediary of mushroom lifters.

Special attention has been given to the matter of uniform jacket space around each of the cylinders of the motors. The detachable head feature helps in this respect, for it permits of the making of accurate castings so far as the water jacket thickness is concerned. Equal spacing is secured all around each of the cylinders, making for uniform expansion of the cylinders all around. Un-

DETAILS OF THE DORTS

Price—

Touring	\$650
Roadster	540
Make of motor	Dort
Number of cylinders	Four
Shape	L-head
How cast	Block
Bore....Touring, $3\frac{1}{4}$; Roadster, 3	
Stroke....Touring, 5; Roadster, 4	
S. A. E. h.p. Tour., 16.9; Rdstr., 14.4	
Starting-lighting	Apelco
Clutch	Cone
Gearset	3-speed
Wheelbase... Tour., 105; Rdstr., 92	
Tires	30 x $3\frac{1}{2}$
Wheels	Wood
Steering	Left
Control	Center
Type rear axle.....	$\frac{3}{4}$ -floating



Full cantilever springs of unusual length are among the chassis features. The motor has a detachable head with an aluminum crankcase and the crankshaft is of large diameter

usual in four-cylinder construction is the double exhaust manifold, also. This is on the same order as the double designs often used with sixes.

Dort motors are lubricated by the constant circulating splash arrangement, whereby a pump operated from the camshaft draws oil from the reservoir at the bottom of the motor and forces it to the front gear casing, from which point it flows to the troughs under the connecting rods.

The electrical system has for its main unit an Apple motor-generator carried on a bracket on the left forward side of the engine and driven by an enclosed silent chain from the crankshaft at a $2\frac{1}{2}$ to 1 ratio. A simple adjustment of the chain is provided.

A very nice type of cone clutch has been designed for these cars. This has a leather-faced pressed steel cone with six compensating spring plungers pressing upon the leather at equal intervals around the circumference, and making for an easy action of the clutch on engaging. Each of these spring plungers is enclosed within a cup pressing which is attached to the cone, and the ends of the plungers extend through the cups to admit of adjustment of the spring tension. They carry adjusting nuts, held in place by cotters. The clutch pedal operates through a hollow phosphor-bronze collar, which is constantly filled with grease through a tube to the outside of the gearcase.

From the power plant the drive system is still strictly Dort design throughout. Fitted with a universal just back of the gearbox, the driving shaft then enters a substantial torsion tube, the front end of which is of yoke form. The arms of the yoke are carried in brackets on each side of the gearbox end, and with freedom of end play to the extent of $\frac{1}{4}$ inch, this to take care of axle variations.

A special feature of the rear axle construction is that all bearings are adjustable from the outside, which is a point that cannot be too highly commended. In addition a special opening has been provided in the housing to enable the driver to see that the bevel gears are properly meshed. To allow for this external adjustment a pin passes through the housing to a groove in the bearing carrier, and when this is unscrewed the carrier can be turned through the opening in the housing thus made, bringing another groove into position for locking.

Brakes are 10 inches in diameter with the service set external contracting and the emergency internal expanding. The service brake operates from the clutch pedal. The emergency brake system is operative from the other pedal with a ratchet holding it in place when required.

Cantilever rear springs are used and are of the full type, shackling at the front to the frame and having a trunion attachment at the center.

Association News

Buffet Proves Big Success

PHILADELPHIA, July 26—Commenting upon the activity of recent months in retail trade organizations and the need in certain localities of renewed interest, Assistant Secretary H. Warren Terry of the Philadelphia Automobile Trade Association cites the success that organization has had with its club-rooms and buffet.

"Any organization that is looking for a plan to infuse new life and interest into its members might well try club-rooms and a buffet of its own," says Terry. "Our association was formed in 1902 and, as is customary with most organizations, had headquarters in an office building. When we held a meeting it was necessary to 'hire a hall' or find accommodations at a hotel."

"A need was felt for some means of a social interchange of views among the members and it was felt that interest was not as great as it should be. In 1909 a special meeting was called, and after considerable discussion a committee was named to investigate the club-room and buffet question. The members were Allen Sheldon, Premier; W. J. Foss, Pierce-Arrow, and A. E. Maltby, Winton, the latter two of whom are still representing the same cars and are association workers.

"Quarters, consisting of a general office, secretary's office, directors' room, lounging or meeting room, and a cafe and kitchen, were secured in a building being opened on automobile row. Possession was taken five years ago last month.

"After five years it is the unanimous opinion of the members that it was the wisest step that could have been taken. The best feature is the cafe, where from 25 to 50 members meet daily at lunch, forget business, become better acquainted and increase association interest. Two of the large round tables seat 12 each.

"The rooms are open to all dealers for meetings, and several of them hold staff meetings once a month, usually preceded by a dinner in the cafe. At times factory representatives have held meetings with all their representatives in this district."

To Have Division for Car Dealers

DES MOINES, IA., July 26—A Car Dealers' Bureau is planned within the Iowa Automobile Business Association, an organization which includes all the trade interests—car dealers, garagemen, repairmen and accessory and tire dealers. This will permit a segregation of the affairs of the dealers and will make it unnecessary for them to attend those

meetings at which subjects of not great interest to them are discussed. A similar bureau is maintained by the Garage Owners Association of Illinois.

Syracuse Dealers Play Together

The Syracuse Automobile Dealers Association held its annual outing July 22 at Constantia on Oneida Lake. It had been planned to make a parade of antique cars a feature of the affair, but this was given up as not enough cars of ancient type could be obtained. In a long procession of motor cars the dealers and their friends, 200 in all, left Syracuse at 11 o'clock in the morning and drove 26 miles to Constantia. Dinner was served at noon and there were athletic games and contests afterward.

Owners Only in Truck Club

NEW YORK, July 22—Motor truck owners only will hereafter be eligible for active membership in the Motor Truck Club of America, Inc., according to action taken last night at the July meeting. A resolution to increase the dues for active membership to \$25 per annum; to establish a sustaining or company membership at \$50, and to continue honorary memberships without dues was unanimously passed. A second resolution was passed after two ballots had been cast which excluded any but motor truck owners from membership.

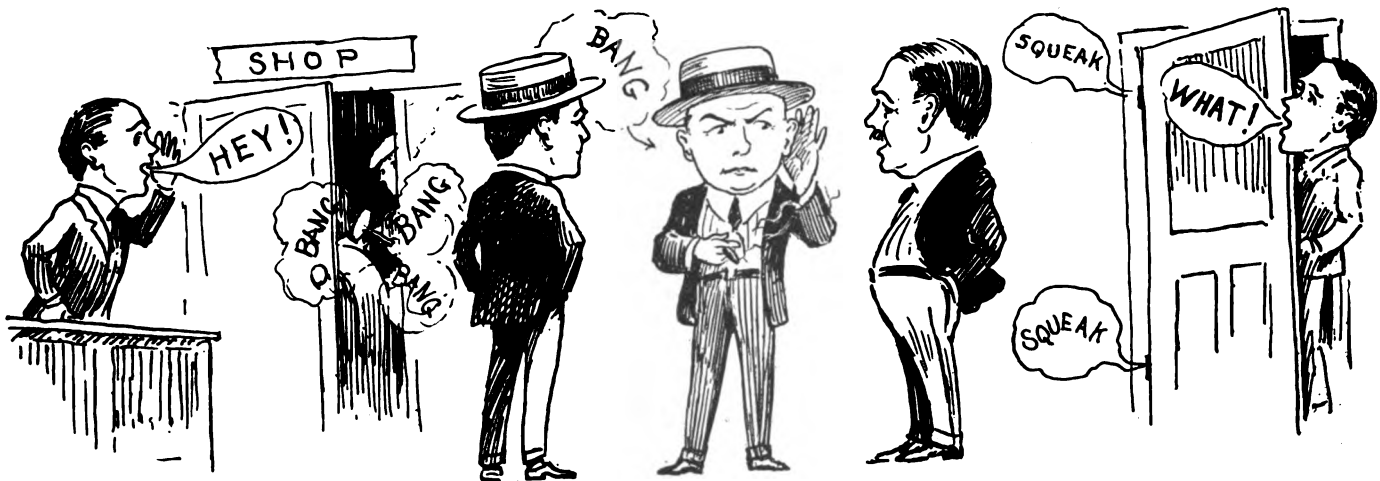
Make Monday Clean-up Day!

SAN FRANCISCO, July 26—"Make Monday Clean-up Day!" is the slogan in a bulletin that has been issued to members by the Garage Owners Protective Association of San Francisco, of which Arthur D'Ettel is secretary. He is also promoting the bulletin service to members for the betterment of general business and association conditions.

The bulletin calls attention to the great number of visiting motorists and urges that San Francisco's garages be cleaned and dressed for these tourists. Members have been asked what they think of a prize for betterment of garage conditions. The bulletin begins with a quotation from Prentice Mulford: "We lose vigor through thinking continually the same set of thoughts. New thought is new life."

Denver Show Sept. 27-Oct. 10

DENVER, July 24—A two weeks' motor car and accessory show is planned for Denver by the Automobile Trades Association of Colorado, to be held in connection with the International Soil Products Exposition September 27 to October 10.



Salesroom Should Differ from a Boiler-shop

Noises and Squeaks Are Highly Undesirable in the Room in Which the Prospect Is Expected to Look at the Car

By Ray W. Sherman

REILLY was stuck again in Midvale, the little town half way between Sayanna, where the Sennett car was made, and Callawassa, where Reilly sold them. He had met with a pesky little accident, the third that had happened to him in less than a year and each time just near enough to the Midvale Garage to make it both necessary and advisable that he be a customer of his fellow tradesman.

Dempsey, the proprietor, ran the biggest place of its kind between Sayanna and Callawassa. He sold cars, repaired them, fixed tires, did a garage business and did a good business every year in accessories and supplies. He occupied a large building with a spacious salesroom, a neat office and a small accessory store.

Noises—and Then Some!

While Mike, Dempsey's all-around man and odd job expert, put a new spark plug into the Sennett motor, Reilly and Dempsey and Tommy Trumbull—who as usual was out in the car with the boss—talked. They talked of new cars, the weather, business in general and the days when the Midvale High School team used to play riot-and-no-score ball games with the Callawassa aggregation.

They hadn't been talking long when it became apparent to Tommy that Reilly was getting uneasy. Tommy watched him for a while and then discovered that it was the unseemly and unnecessary noises that were getting on the boss's nerves. The Midvale Garage did seem to possess an unusual capacity for racket; doors slammed, men hollered, the shop was too near the office, and there

was a constant clatter. Had it been merged into one noise like the roar of a big city it wouldn't have been noticeable, but one clash came just far enough from the other to make each stand out as distinctly as the staccato verses of a cash clothes man's chant.

It Annoyed Reilly

After Tommy discovered the source of the trouble it was amusing for him to watch Reilly. Dempsey was in the middle of a sentence when a door leading to the garage went shut with a bang! Reilly jumped about a half inch outwardly and about a foot inwardly. But Dempsey never noticed the jump or the noise.

This door was equipped with a closing device of some sort, and it worked with a vengeance. Also, every one who went through it seemed to pull it as far open as possible and let it slam. This happened on an average of every two minutes, and every time it happened Reilly's face twinged—and he went through that jumping operation.

It Amused Tommy

The noise would have annoyed Tommy, too, had he not been finding in it an amusement in watching its effect on his boss. He would begin to think maybe the door wouldn't slam again, it would be quiet for so long, when it would start up again and slam three times in one minute.

From his study of this door noise Tommy went to a search for others, and he soon learned that the swinging door between the office and the accessory

store was running it a close rival in Reilly's nervous system. Every few minutes the accessory clerk and book-keeper would be called to the store, and in a few minutes he would return. Each time the door swung to and fro eleven times—and squeaked. That is, it squeaked eleven times, but made several short swings for which the door did not seem to think a squeak was necessary.

Tommy got so he was a pretty busy man between the two doors, and when one of the salesmen yelled all the way across the salesroom at another salesman he had hardly time to notice the effect on the boss. And when somebody out in the shop began a boiler-maker's tattoo on a piece of metal of some sort and the noise came in through the thin partition as though there were no partition at all, Tommy quit trying to catalog the rackets.

The Final Bang!

"Ahll duhn, sor!" announced Mike.

Reilly inwardly said: "Thank God!" Outwardly to Dempsey he said a pleasant good day and paid for the job. Just as he was going out the door the clerk put the money in the cash register and when the bell rang Reilly had all he could do to keep from jumping through the door.

"Noises bother you?" smiled Tommy, after they had gone a couple of blocks from the garage and were getting out into the open, quiet country on the Sayanna road.

"Humph!" snorted Reilly. "I'd have the willies if I had to stay in that place! Did you ever see so much racket?"

Officers of the Automobile Business Association of Grand Rapids, Mich.



Left, Vice-president John T. Bruce, Miller tire dealer. President Ray E. Becker, Becker Auto Co., Ford dealer. Treasurer Carl P. Palmer, Lee Tire & Supply Co. Secretary Ernest T. Conlon, Michigan Trust Co. building, Grand Rapids

"Yes, but not in a garage," laughed Tommy.

"I don't see how Dempsey could ever sell a car to a man in that salesroom, especially if the man were at all susceptible to noises. That place is terrible! Every time you try to concentrate your mind on anything off goes one of those noises and busts up your mental parade!"

"It is rather distracting," agreed Tommy.

"It's worse than that! It's awful!" asserted the dealer. "I couldn't live in a place like that; and it's so easy to quiet things down if Dempsey would only give the matter some attention."

"That squeaking door could be fixed in five minutes," said Tommy.

"Five minutes! It wouldn't take two minutes!" angrily exclaimed Reilly. "And that slamming old door at the back could be fixed with little effort. I don't see how he ever let such a door get by in the first place. It would be worth while, too, to have that partition between the shop and the front of the place made more impervious to noise. Having the shop where all its racket can be heard in the salesroom doesn't help any in the sale of cars. It gives the prospect a mental picture of his own car being overhauled every month at seventy-five cents an hour. I also think the men in the shop could get along with a little less noise if they were asked to do so."

"I guess Dempsey doesn't notice it," volunteered Tommy.

"I should say not! Did you notice the way those salesmen hollered back and forth across the salesroom?"

"Yes, I did."

"That's a sure sign that Dempsey doesn't care how much noise there is. If he cared he wouldn't permit it. And when he wanted Mike to fix my car Dempsey summoned Mike by yelling for him. I guess the whole cause of the trouble is Dempsey himself. He has set an example for every one in the place by yelling his head off."

"Maybe he thinks that's a repairshop short-cut. It saves time," was Tommy's suggestion.

"Some short-cut!" said Reilly. "It loses him money every time a customer comes into the place. You know, the modern interpretation of noise is that it is inefficiency. It is wasted power, lost motion. Noise in machinery is sought for and eliminated. A noisy car is a bygone product. The minute a car gets

noisy something's wrong, and we make it right. An organization in which there is turmoil and noise and confusion is inefficient. There is something radically wrong in the Midvale Garage."

"Dempsey needs a muffler, as a starter in noise elimination," suggested Tommy.

"I guess that's it," agreed Reilly. "He's been running too long with open ports."

(From the New York Times.)

THE REILLY OF SONG

Or Was It O'Reilly, and Does Anybody Know It for Sure?

To the Editor of The New York Times: Regarding the popular Mr. Reilly and his historic hotel, here's the real thing, as sung in New York in the eighties at the famous Tenderloin Club:

Is this Mr. Reilly,
They spake of so highly,
Is this Mr. Reilly
That kapes the hotel?

It IS Mr. Reilly,
They spake of so highly—
Upon me sowl, Reilly,
You're looking d—d well.

As a past officer and one of the few survivors of that genial brotherhood, it gives me pleasure to resurrect from those long-buried and half-forgotten memories, in loving memory, the above rendition.

GEORGE W. HILLS.

Philadelphia, Penn., July 22, 1915.

To the Editor of The New York Times: Anent your query in the "Topics of the Times" column in today's Times, would say that the correct words of "Mr. Reilly" are:

Is this Mr. Reilly, they speak of so highly,
Is this Mr. Reilly who keeps the hotel?
If you're Mr. Reilly, they speak of so highly,
Why, then, Mr. Reilly, I hope you're quite well.

WILLIAM W. BINGHAM.

Newark, N. J., July 22, 1915.

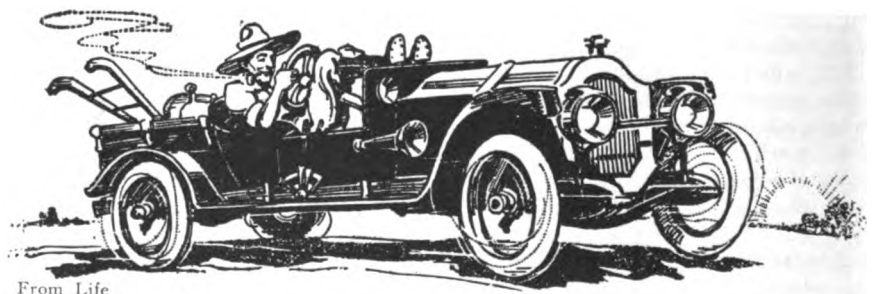
To the Editor of The New York Times: This is the chorus of thirty years ago: Are you the O'Reilly that keeps the hotel; Are you the O'Reilly, can any one tell? If you're the O'Reilly, they speak of so highly, Bejabers, O'Reilly, you're doing d—d well.

ANONYMOUS.

New York, July 22, 1915.

Distributor to Enter Races

INDIANAPOLIS, IND., July 26—The William Small Co., distributor of the Chevrolet in Indiana, has received two specially constructed racing cars from the Chevrolet factory and will use them in state fair dirt track races throughout the state this summer. William Brown, of Fort Wayne, Ind., will pilot one of the cars and the other will be driven by William Doughty, of Bluffton, Ind.



From Life

"THE PLOUGHMAN HOMEWARD PLODS HIS WEARY WAY"—Thomas Gray

Two Auburn Chassis for 1916

Four and One Six Continued With Improvements —Larger Six Discontinued

CHANGES that, while in no sense radical, are of importance because of their effect on the riding and the appearance of the car, have been made in the Auburn, manufactured by the Auburn Automobile Co., Auburn, Ind.

These improvements are found on each of the two models which constitute the 1916 line. One of the cars is a four and the other a six, the larger six of the previous series having been dropped. The four-cylinder chassis carries a two-passenger roadster and a five-passenger touring body at the same price, \$985, while the six mounts three-passenger roadster and seven-passenger touring bodies at \$1,050. The wheelbases are 114 inches for the four and 126 inches for the six. The tires are 34 x 4.

Last season's four-cylinder model was known as the 4-36 and is now designated as the 4-38; in place of $3\frac{3}{4}$ -inch bore it has $3\frac{7}{8}$, and a stroke of 5 inches the same as in the 1915 model. The S. A. E. rating is 24, but 38 horsepower on the brake is claimed by the manufacturers. As would be expected in a T-head design, the valves are large, having an outside diameter of $2\frac{3}{16}$ inches with a port opening of 2 inches clear. The valves are interchangeable and have cast iron heads on nickel steel stems.

Three bearings are provided for the crankshaft and the camshaft. A patented lubricating system is used—a splash design with two overflow basins in the lower part of the crankcase. In addition to the regular splash arrangement

there is cast integrally with the upper half of the crankcase an oil pocket over each main bearing. These are kept full, continuously supplying oil to the crankshaft. Timing gears are spiral. The generator is mounted on the pump shaft and the starting motor is installed back of the flywheel housing; the pinion meshes with a hardened ring gear on the rim of the flywheel.

NEW AUBURN FEATURES

Cantilever springs have been adopted.

Fuel feed is by the Stewart vacuum system, the gasoline tank now being mounted at the rear.

Doors are set flush, with invisible hinges and flush handles.

Bodies are roomier and more comfortable.

The auxiliary seats in the seven-passenger car are of the disappearing type.

Model 6-40 A, the six-cylinder car, is entirely different from the four. Its block-cast cylinders are L- instead of T-head and it uses three-point suspension with the unit power plant. The cylinders are cast from reverberatory air-furnace iron and then rough-bored, finish-bored and ground. The pistons are cast from the same metal as the cylinders and are fitted with three diagonally split



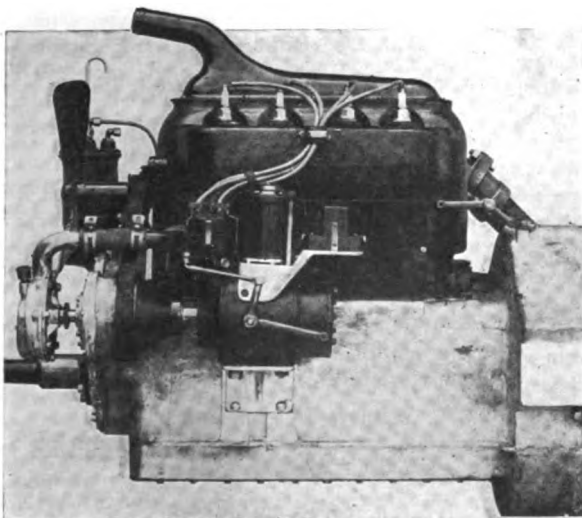
There is a most agreeable appearance of roominess in the driver's compartment

concentric rings. The rings in the four are eccentric. Oil grooves are turned on the outside of the piston for collecting and distributing oil.

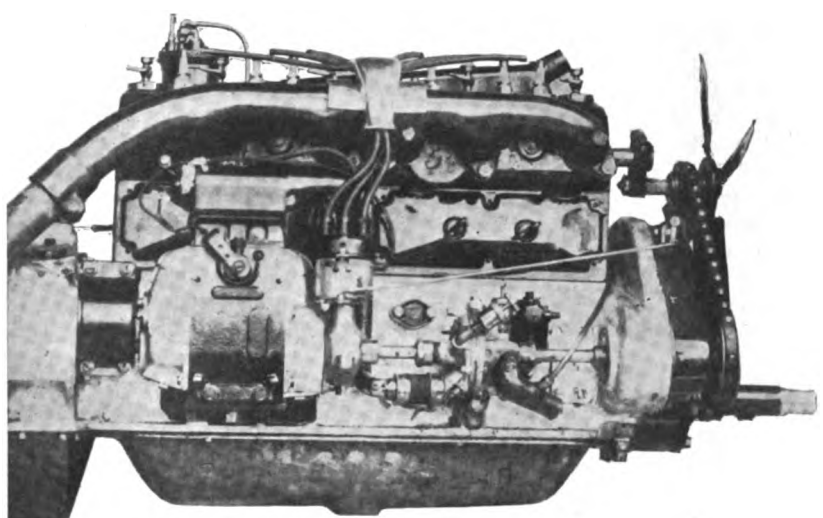
The crankshaft is carried on three bearings and has a special thrust arrangement in the form of flanges on each side of the center main bearing. The timing gears are helical and the timing set is made up of a crank, cam and pump shaft gear.

A leather-faced cone clutch transmits the drive to a three-speed gearset, the shafts of which are carried on annular ball bearings. The propeller shaft has two universals. Torsional strain is taken by a double tube torque arm, the front end of which is spring mounted.

The frame is of channel steel, thoroughly braced and of inswept construction. Springs are semi-elliptic front and cantilever rear, the front axle is drop-forged of I-beam section with integral yokes, and the steering gear is worm-and-wheel, non-reversible, with the column on the left.



The four-cylinder motor has had its bore increased from $3\frac{3}{4}$ to $3\frac{7}{8}$, the stroke remaining at 5 inches



The six is an L-head unit power plant and is mounted on a three-point suspension. Cylinders are of reverberatory air-furnace iron

Dealer's Legal Status

Order Agreements Which Bind Only One Party Have Been
Declared to be Void—Agreement Must Hold Both
Seller and Buyer—An Ideal Form

By George F. Kaiser

THE Order Agreement "A" has been sent me with a request that I examine it, give my opinion on it and draw up a contract which would be more suitable.

In the first place, I do not like the form of this order; it is merely a receipt, with a promise to buy the car on the part of the purchaser tacked on.

Next, I have grave doubts as to whether in its present form it would constitute a valid agreement, as it contains a provision that if there is any default on the part of the purchaser in taking the car he must forfeit his deposit, while if the dealer does not live up to his agreement all he need do is return the deposit.

The provision which says that "If said automobile is not delivered according to the conditions hereinto set forth, then said earnest money shall be returned to the purchaser," would seem to be an indirect way of absolving the dealer from responsibility, if he did not live up to the contract. Contracts where one party is bound and the other is not have been held to be void.

Short and to the Point

I suggest that a contract drawn up like the form marked "B" be used in a case where a dealer wishes to use a short agreement in writing. While this form is short, it contains everything it should and is concise and easily understood.

I have added a clause which is very important and that is the clause reading—"there are no representations, agreements or undertakings express or implied relating to said goods other than those contained herein." When that clause is contained in a contract a party who purchases a car cannot come in afterwards and claim that he was told that the car was warranted for a year, or that it would make 50 miles an hour.

If there is nothing in the contract to show that it is warranted, or if there is no clause therein relating to the speed of the car, the purchaser would have no claim against the dealer and any little remark that the dealer might have made cannot be used against him.

This clause is particularly valuable to the dealer if the sale is made by a salesman or an agent. Frequently people in these classes in their desire to make a

sale will go further than their employer intended them, and afterwards when the purchaser wishes to break the contract he sets up that the car was not as warranted because the salesman told him that it would go 50 miles an hour and he found it would not. If the dealer desires to warrant the car, the following is a good form to use:

"We guarantee all parts, except rubber tires, against inherent defects and breakage of defective materials for a period of one year following the date of shipment and will replace free of cost f. o. b. factory any defective or broken parts returned to the factory charges prepaid."

Another form of warranty which may be used with the contract is:

"We guarantee our product for one

Order Agreement A

RECEIVED OF.....
purchaser, the sum of.....
Dollars (\$) as earnest money
and part payment for the purchase
of one.....automobile
with following extras.....
which has been sold this day to
said purchaser, subject however, to
conditions named in this agree-
ment, for the sum of.....
.....Dollars (\$.....) on
the following terms: Said automo-
bile to be delivered in
State of Ohio, to the purchaser on
or about theday of.....
191 , and if said purchaser ne-
glects and refuses to accept any
pay for said automobile according
to terms above mentioned, within
three days after receiving written
notice that said automobile is
ready for delivery, then the earnest
money shall be forfeited as liqui-
dated damages to
AUTOMOBILE CO., but if said
automobile is not delivered accord-
ing to the conditions hereinto set
forth then said earnest money
shall be returned to the purchaser.
..... AUTOMOBILE CO.

Accepted by.....
I hereby agree to purchase said
automobile on the above terms and
pay balance.....Dollars
(\$) as specified herewith.
.....
Newark, O.,.....191.. Purchaser.

Order Agreement B

It is hereby agreed by John
Jones, of 100 South First street,
New York, and The Motors Co.,
of Main street, New York, that
The Motors Co. shall deliver one
"DOMESTIC" motor car de-
scribed as follows:
with the following equipment: ...
.....
on September 1st, 1915, to the said
John Jones at their salesroom.

That John Jones will pay the
sum of One Thousand Dollars
(\$1,000) for said automobile, One
Hundred Dollars (\$100) to be paid
on the signing of this contract, and
the balance on demand when noti-
fied that said car is being held to
his order.

That there are no representa-
tions, agreements or undertakings
express or implied relating to said
goods other than those contained
herein.

July 1st, 1915.

(Signed) John Jones.

The Motors Company,

Witness: By Ralph Smith,
as President.





ACCESSORIES & SUPPLIES :

Full-Elliptic Springs for Fords

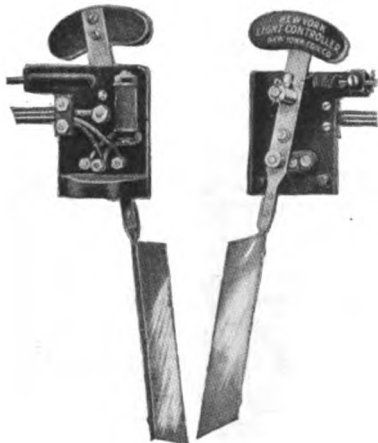
Four full-elliptic springs and all the parts necessary to attach them to a Ford car comprise the suspension set that is being manufactured by the Phillips Bros. Mfg. Co., Jackson, Mich. The springs have the same bearings as the original springs and are attached without boring holes or doing any fitting work; the only tool required is a wrench, and the makers state that the set can be applied in about two hours. Steel bars are provided to form a body support for the springs and are attached by the original clamps.

Price, \$30; dealers, 33⅓ per cent.

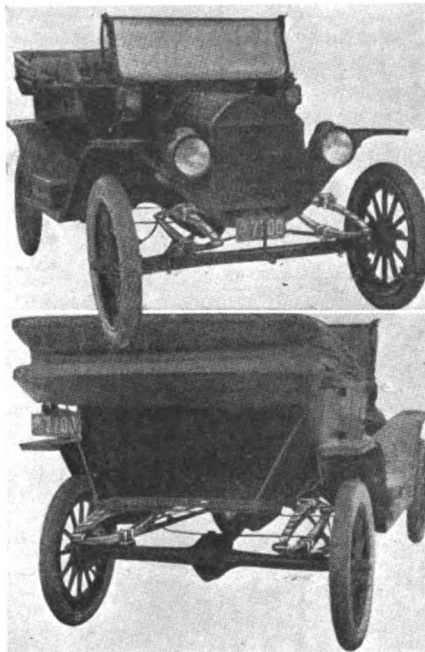
Control for Ford Electric Headlights

The varying strength of the air blast from the fan of a Ford car is utilized by the New York Coil Co., 338 Pearl street, New York, in its regulating device for Ford headlights. A counterweighted swinging arm carrying an aluminum blade is placed so that the air from the fan impinges directly upon it; normally the arm is held forward by a spring and the air moves it backward. As it moves, electrical contacts are operated, turning on first the left headlight when the current is only sufficient for one lamp, then turning on both lamps and, when the speed of the motor is such that the current generated is excessive, throwing into the circuit a resistance which prevents the burning out of the lamps.

A spring contact in the arm moves across three contacts mounted in the base plate, which is bolted to the front cylinder, using a special bolt which goes in



Back and front views of N. Y. Coil Co.'s control for Ford headlights, which is operated by the blast of air from the fan and regulates the magneto current



A complete set of full elliptic springs and attaching fixtures for Fords is supplied by the Phillips Bros. Mfg. Co. No machine work is necessary in attaching

the place of one of the cylinder head bolts. Three wires are connected, these wires being furnished with the outfit and differently colored to avoid confusion. The makers state that even at low engine speeds the current of the Ford magneto is sufficient to light one lamp brilliantly, though divided between two lamps it would not give nearly as good a light, the lamps being far less efficient at very low current values. The current becomes sufficiently strong for both lamps when the car attains a speed of about 15 miles an hour.

Price, \$5.

Rels Aluminum Brazing Metal

The Rels Mfg. Co., Brooklyn, N. Y., makes a metal for brazing aluminum; the metal is too hard to use with a soldering iron, so a gasoline torch or its equivalent must be used. The surfaces to be united are heated to bring all oil to the surface and are thoroughly cleaned, scraped bright and the abutting edges chamfered, much as in ordinary brazing. The surfaces are tinned with the metal, no additional flux being required, and are united by running in more metal to fill up the V formed by the chamfers.

The metal is made in bars. Price, 50 cents per bar.

Robert Electrical Instruments

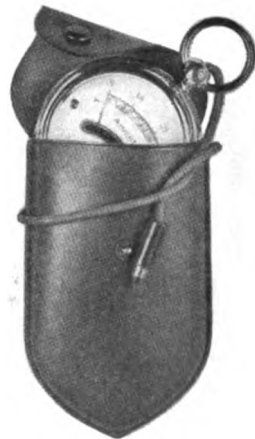
The Robert Instrument Co., 56 Shelby street, Detroit, makes a series of ammeters and volt meters that are particularly convenient and well adapted to small work, such as battery testing, small storage battery charging and general pocket service. The miniature switchboard type has a 2½-inch base; the flange may be either at the back or the front of the case, the latter for flush mounting. Ammeters are made in four capacities—3, 15 and 30 amperes, single scale, and 10-0-10 and 15-0-15 amperes double scale, the latter having a zero center and reading for charging on one side and discharging on the other. Voltmeters are made in four capacities—6, 12 and 15 volts single scale, and 15-0-15 volts double scale. Instruments for pocket use are supplied with solid sewed leather cases. All are dead-beat and accurately calibrated.

Price, all types, \$6. Dealers, 40 to 50 per cent.

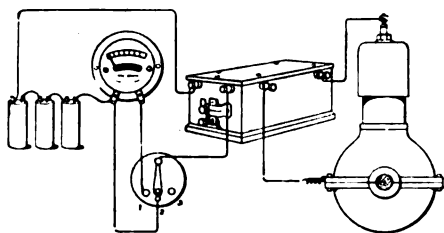
Breeze Wiring Protector

The complete protection of all the wiring on the car is the object of the wiring harness that has been brought out by the Breeze Carbureter Co., Newark, N. J. The Breeze harness is put up in sets, each containing sufficient flexible metal covering to armor all the car wires—lighting, starting, battery, magneto, plugs, and so on.

The armor for the rear lamp is enameled black for 3 feet from the lamp and



Roberts electrical instruments are made for switchboard and pocket use and in both volt-meter and ammeter models. Pocket meters come in leather cases



To measure and equalize the current passing through the spark coils, the Roberts company makes a special ammeter which may be had for pocket or switchboard

that for the headlights is nickel plated for 6 feet. The average length of wiring on a large car is about 30 feet, but the outfit contains 45 feet—7 feet of 1-inch diameter armoring, 8 feet of $\frac{5}{8}$ -inch, 10 feet of $\frac{7}{16}$ -inch, 20 feet of $\frac{5}{16}$ -inch, 2 three-to-one joints or junction pieces and 4 two-to-one joints.

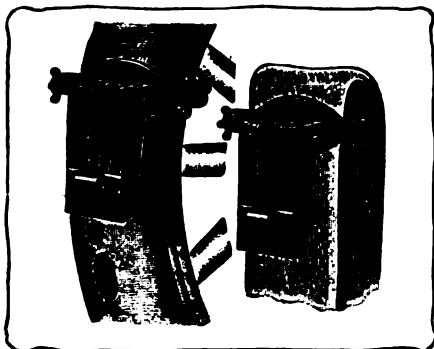
Price per set, \$6.

Stoddard Tires for Small Cars

By specializing in 30 x 3 and 30 x $3\frac{1}{2}$ tires, manufacturing no other sizes, the Stoddard Rubber Co., Inc., Worcester, Mass., states that it is able to produce better tires than if its energies were not so concentrated. The price of the 30 x 3 tire is \$6.90 and of the 30 x $3\frac{1}{2}$ \$9.80. The materials used are said to be upriver Para gum and Sea Island cotton, and it is claimed that the Stoddard tires are larger and heavier than other tires of the same nominal sizes.

Spark Coil Current Indicator

A convenient means of adjusting and equalizing the current flow through the coils of a motor ignition system is supplied by the Roberts Instrument Co., 56 Shelby street, Detroit, in its spark coil current indicator, which is simply a specially constructed and calibrated ammeter. Two types are made, one for pocket use and the other for switchboard mounting. The instrument is shunted into the coil circuits one at a time and the coils adjusted until the current consumption is equalized and is as low as is commensurate with the best results. The capacity is 3 amperes. Each instrument comes in a sewed leather case.



The Prsco tool-box vulcanizer will burn either gasoline or alcohol in its firebox; a steam compartment is employed for the efficient distribution of heat

Price, pocket type, \$4; switchboard type, \$6. Dealers, 40 to 50 per cent.

Midgley Non-skid Tires

The tires manufactured by the Midgley Tire & Rubber Co., Lancaster, O., have embedded in the rubber of their treads circumferential coils of steel piano wire, four in each tread. As the tread wears the wires wear with it, the many sharp ends projecting and affording a good grip on the road when the rubber is pressed back. The effect of the wire lasts as long as the tread. The makers state that the wire helps to prevent puncturing and stone-bruising and considerably lengthens the life of the tire.

Stevens Reserve and Shut-Off Valve

Stevens & Co., New York, have brought out a gasoline valve for Ford cars which is arranged to stop the supply of fuel to the motor and so warn the driver when there is one gallon left; turning the valve to the emergency position permits this gallon to be used. An-



Two dry cells of standard size are used in the Presto battery lamp. The reflector, containing a Mazda tungsten bulb, can be swiveled to any angle

other position of the handle shuts off the supply altogether, locking the car. Price, \$1.

Prsco Steam Vulcanizer

A tool-box vulcanizer, burning gasoline or alcohol, in which the even distribution of heat is effected by steam, is manufactured by the Pennsylvania Rubber & Supply Co., Cleveland. It can be used for both tube and casing work, the clamps provided being suitable for attachment to either job. Gasoline is placed in the firebox and allowed to burn out, which takes 15 minutes, and the vulcanizer allowed to cool, which takes a like time.

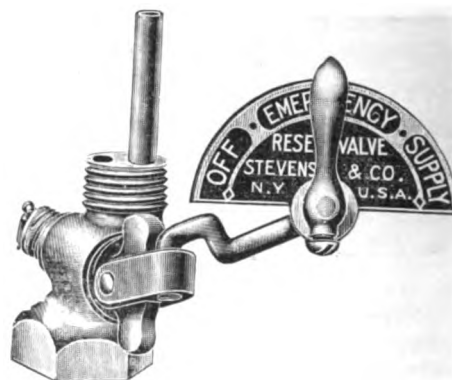
Complete outfit, \$2.50; dealers, \$1.25.

Edison Nitrogen Filled Headlamps

The Edison Lamp Works of the General Electric Co., Harrison, N. J., is placing on the market nitrogen filled headlamp bulbs in standard sizes. Two sizes are made—6-7 volts, 21 candlepower, 35 cents each, and 12-14 volts, 24 candlepower, 37 cents each.

Presto Two-Cell Dry Battery Lamp

A dry-battery hand lamp, which has the advantage of making use of the cur-



Warning is given of approaching exhaustion of fuel by the Stevens shut-off valve; the fuel supply is interrupted when one gallon is left

rent from two cells, is the Presto, put out by the Metal Specialties Mfg. Co., Chicago. The cells are enclosed in a black enameled casing 7 inches high, and on the front is mounted the reflector and bulb, pivoted so that the light can be thrown up or down at any angle. The lens is 3 inches in diameter. The cells used are standard-size dry cells obtainable anywhere; cells are not furnished with the lamp, as they are better if obtained when fresh. The lamp bulb is an Edison Mazda with tungsten filament.

Price, without dry cells, \$1.75.

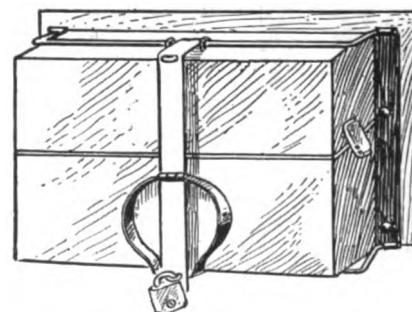
Stewart Lock for Ford Switch

A lock that secures the switch and coil-box of a Ford is manufactured by the Stewart Specialty Co., 79 East Chestnut street, Columbus, O. It consists of a hasp-like hinged bar that fastens at the top of the box and, when locked, passes down over the switch and slips over a steel loop at the bottom; a padlock is hooked into the loop and snapped shut, locking up the whole box. The bar is turned up on its hinge when the car is in use. The front bar is nicked and other parts black enameled and baked.

Price, \$1.50; dealers, \$12 per dozen. Installation, 50 cents extra.

Schrader Valve Convenience

A. Schrader's Son, New York, has brought out a little containing case holding five valve insides that is particularly convenient. The box is of metal and is damp-proof; each of the insides rests in



Not only the switch, but the whole coil box of the Ford car are securely locked by the Stewart device. The finish is in nickel and black enamel



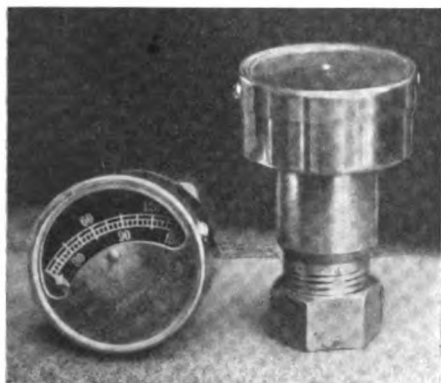
Five valve insides are carried, each in a separate groove, in the new damp-proof metal case that is being put out by the Schrader company

a groove of its own so that there is no danger of their damaging each other.

Price, 20 cents.

Superior Lamp Brackets for Fords

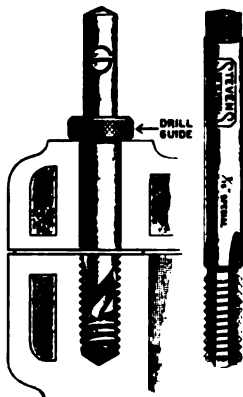
A set of malleable iron lamp brackets, permitting a new method of attaching lamps to Ford cars, is marketed by the Superior Lamp Mfg. Co., 136 West 52nd street, New York; the set includes one tail lamp and two side lamp brackets. Side brackets fit the projecting windshield flanges and are fastened by bolt and nut; they are made in rights and lefts



With a McDonald pressure gauge on each tire valve in place of the dust cap the pressure can be ascertained at any time by glancing at the hand on the dial

and take the ordinary flat bracket prop holder. With these brackets it is not necessary to use a bolt-on lamp; any make of lamp can be used.

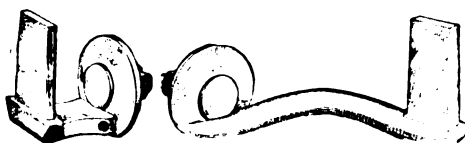
Price, per set, \$1.50; dealers, 50 per cent.



With the tap and drill set supplied by Stevens & Co. the drilling out of broken cylinder bolts and the cleaning of the threads becomes an easy matter

Stay For Garage Doors

A stay designed to hold garage doors open against wind or other forces tending to close them is supplied by the Stanley Works, New Britain, Conn. The stay consists of a jointed angle-steel bar with brackets at each end. One bracket is screwed to the door and the other to the frame, both at the top. When the door is closed the stay is folded upon itself. When the door is opened the stay opens and when the folding joint is straightened out it locks in position, holding the door so it cannot swing either way. To release the door a chain is pulled, throwing the joint off center. No mortising is necessary in applying.



The set of malleable iron lamp brackets supplied by the Superior company for Fords permits the use of any make of lamp instead of only the bolt-on type

McDonald Magnet Recharger

A magneto magnet recharger that is designed especially for the car owner is manufactured by the C. C. McDonald & Son Electric Co., Chenoa, Ill. The windings are enclosed in a wood case, the iron poles projecting from the top. The magnet to be charged is placed with its poles on the charger poles, and is pressed down into the box, which brings it into the strongest part of the field. Current is then turned on and off by means of a switch. It is necessary only to turn the current on momentarily, shutting it off quickly; thus the current consumption is small and the time occupied in the actual charging is almost negligible.

The charger is sold to dealers and garagemen at \$15.

Valve-cap Tire Gauge

A tire gauge that is screwed on the tire valve in place of the dust cap is manufactured by the C. C. McDonald & Son Electric Co., Chenoa, Ill. It is small and neat and its chief advantage is that it shows the pressure in the tire at all times; to ascertain the pressure it is necessary only to glance at the gauge. One is put on each tire.

Price, \$5.50 per set of four; dealers, 25 per cent.



Stevens Tap and Drill Sets

The breaking of a cylinder-head or water-connection bolt in the hole is often a rather serious matter to a Ford owner because of the difficulty of getting out



The magneto magnet is placed on the poles of the McDonald magnet charger pressed down into the box and the switch closed and opened. This completes the work

the stub and keeping the threads clean and intact. The work is easily done, however, with a set that has been gotten out for the purpose by Stevens & Co., New York. The set includes a drill of the proper size to drill out the bolt, leaving only a small amount of metal in the threads; a bushing which goes in the clearing hole in the cylinder head to guide the drill, and a tap to clean out the threads.

Usually the most difficult part of such a job is getting the drill to go straight into the hole, so that it will not cut away the threads as it goes in and so more or less seriously impair the holding power of the bolt. The guide solves this problem by holding the drill so that it cannot deviate from a straight line; it



The Stanley garage door stay holds the door securely open as long as it is wanted that way; a pull on the chain releases the door when it is to be closed

leaves no more metal than the tap can easily clear away, leaving the hole in exactly the condition it was in before the bolt was broken.

The outfit is put up in a neat case. Price, \$1.

WIDE-AWAKE MERCHANDISING

FREE INSPECTION DRAWS CUSTOMERS

Martin-Evans Issues Cards That Bring Customers Regularly to Store

Getting the prospective customer into the store is one of the problems with which every storekeeper must wrestle. The Martin-Evans Co., Brooklyn, N. Y., has solved this problem in a manner that is both simple and appealing. The company does a general accessory and supply business and in addition is exclusive distributor in its territory for such standard articles as Willard batteries, Bosch ignition apparatus, United States tires, Stewart-Warner speedometers, Gray & Davis lighting and starting apparatus and a number of other products.

We take pleasure in extending to you the privileges of our Service Station and invite you to avail yourself freely of its many conveniences in accordance with the conditions specified upon the enclosed Service Certificate.

The advent of the driving season prompts you to put your car into perfect condition. Your experience and ours has demonstrated that the Magneto, Speedometer and Storage Battery, because of their delicate mechanisms, are peculiarly subject to the wear and tear of the road. A loose bearing, a worn part, only go from bad to worse. A "test in time" saves you money. It protects our reputation and the reputations of the manufacturers whose official representatives we are.

We conduct the Official Service Station in Brooklyn for:

Willard "LBA" Storage Batteries
Bosch Magnets
Stewart-Warner Speedometers
United States Tires

A full line of repair parts for these standard accessories, as well as replacements for all makes of cars, are carried in stock. Factory experts will give you courteous and prompt attention.

Put this card in your pocket and bring your car to us for inspection whenever convenient. We will consider it a favor to be allowed to serve you and trust that this invitation will prompt you to make us many visits in the future.

Our new 180-page catalog of high-grade accessories is ready for distribution. It is a veritable encyclopaedia of everything best for the motor car, its owner and chauffeur. If a copy would be of interest, drop us a line saying so and the same will be mailed to you gratis.

Yours, for "smooth service,"

D. D. MARTIN,
General Manager.

Letter that accompanies the cards sent to every car owner on Long Island

The plan that has been put in force with such excellent results is to issue what are termed service certificates. These provide for free inspection of battery, magneto and speedometer. These cards are being mailed to every motor car owner in Brooklyn, together with a letter calling attention to them.

Harvey J. Wechtel, manager of the service department and father of the idea, states that it is bringing the company much business and that it does not cost much to operate. Four men are regularly employed in making repairs on magnetos, speedometers, batteries and horns, respectively, and though these men are kept fairly busy there are always moments when their work slacks up. In thus inaugurating the free inspection service Wechtel not only provided a magnet to draw the customer into the store but has also found a way to keep his regular workmen continuously busy.

DON'T LIE!

Truthfulness is one of the automobile salesman's most important assets. Sooner or later the prospect will find out if the car has been misrepresented to him. Often it is a competitor that will unearth the falsehoods, and this is fatal to a sale. Even if the prospect buys a car as a result of the lies told him, when he does learn the truth he will proceed to get even by being a dissatisfied owner and a liability.

NO USE ASKING ME TO CUT MY PRICE

Horn and Service for \$5.00 or Another Horn at \$2.90 But No Service


"It's no use asking me to cut my price on that horn," said the manager of a chain of accessory stores in New England, speaking to a customer in the hearing of a Motor World representative. "If you don't want to pay \$5 for it, I'll sell you one for \$2.90. As soon as you talk price, I'm going to talk another horn. That's all."

"But, I'll tell you this: If you buy this \$5 horn and in a week or a month or a year it goes wrong, you bring it right back and we will make good. We will give you another for it or will repair it free of charge. Your \$5 buys the horn and it also buys service."

A Horn Plus—

"If you buy the horn at \$2.90, I'll say to you: 'Take it and God bless you; if it goes wrong, keep away. With the horn you have our blessing and our well wishes, but not our service. We cannot afford to take care of you at \$2.90, nor can you get the quality that eliminates the necessity for care, that is possible when you buy a real horn at \$5.'"

SPEEDM'R												MAGNETO											
TEST INSP												INSP TEST											
JAN												JAN											
FEB												FEB											
MAR												MAR											
APR												APR											
MAY												MAY											
JUNE												JUNE											
JULY												JULY											
AUG												AUG											
SEPT												SEPT											
OCT												OCT											
NOV												NOV											
DEC												DEC											



Service Certificate

Mr. _____

the Owner of _____ Car, License No. _____

is hereby extended the privilege of Storage Battery Inspections and Readings; also Magneto and Speedometer Inspections and Tests during the period of ONE YEAR from date, free of charge.

MARTIN-EVANS COMPANY
Service Department
BEDFORD AT PUTNAM AVENUE
BROOKLYN

Dated _____ 19__

BATTERY

INSP	READ	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
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This card, sent to every owner on Long Island, entitles him to monthly inspection of his battery, speedometer and magneto. This gets the customer into the store

Ocean Liner Service

When the Car Owner Asks Excessive Service Tell Him This Story

By Robert Foster

I made a round-trip on the Lusitania between New York and Liverpool four years ago and had my first introduction to what is meant by service on an ocean liner. My berth cost me \$150 each way and in addition I tipped dining room stewards, deck stewards, library stewards, bath room stewards and every other kind of steward about \$15 going in tips; this was but 10 per cent of my ticket.

But when it came to service this trip was small considering what I got, and I do not think I got anything for nothing—but I got service. In the dining room the steward told me he had instructions to give whatever people wanted. The service was table de hôte, but we were invariably asked at night what we would like for breakfast and when. When we arrived at the dining salon all was waiting for us, with the steward ready for any demand.

Demands Anticipated

On the decks every steward anticipated your demands; was aware of them before you were quite conscious of them yourself. If the weather changed suddenly your steamer rug was brought before you had a chance to ask for it. Your deck chair was moved into the sun or into the shade, according as conditions changed. Each morning your bath steward had the bath ready, water at the correct temperature, and everything else just right. You did not ask; the steward looked you up and got in right. This and much more was Lusitania service.

Here was service that made an ocean trip easy and pleasant. What service should the dealer and maker give to make owning a car and running it pleasant? If the dealer makes it pleasant for his clients to own cars he surely is giving the desired service. Making it pleasant and easy to own a car does not mean giving everything away for nothing. When I got shaved on the boat I paid for it; if I posted letters I purchased the stamps at list price; if I bought souvenirs I did not get them at a reduction; the tailor charged for pressing clothes; you paid for whatever extras you wanted and you expected to do so.

The car owner has no right to expect something for nothing, but he has a legitimate right to expect that you will assist him in making it easy and pleasant to own and run a car.

This does not mean free parts or free repairs, but it does mean giving him that necessary advice when the car is pur-

chased. It does mean telling him that batteries should be looked after and telling him how; it does mean that tire inflation should be checked regularly and showing how; it does mean telling him what grease cups should be regularly turned down. In short, it means that the dealer should start the owner out with a reasonably full familiarity with the car so that during the first few weeks irreparable damage is not being done solely because of ignorance. The dealer can do these and a hundred other little necessities, all of which will make it easier to own the car and to operate it; and which will also make the car last much longer, and naturally reduce repair bills.

Garage On Down Grade May Defeat Its Purpose

Although the proprietor of the garage that first greets the tourist's eye as he enters a town on the main road always is more or less envied for his location, there may or may not be reason for the envy. In other words, experience makes plain that if that first garage is on a hill the tourist generally will keep right on going until he reaches one that does not require such a quick application of the brakes.

This was very forcibly illustrated to the Motor World Road Man on a recent trip through Connecticut. In a small town about 40 miles from New York on the main road a new garage had been erected and opened for business about a week before. Unfortunately the road dipped down fairly steeply entering the town, and the garageman, in his zeal to be the first man on the route, had neglected to make note of the fact that the next garage was in plain sight and that tourists might coast past his door and pull up at his competitor's.

Coasted by the Door

And that is exactly what they do. In about 20 minutes the Motor World Road Man noticed four cars coast down the hill past the new garage and pull up at garage No. 2 for gasoline. They could see garage No. 1 in plenty of time to stop. But they were coasting and the desire to get every inch possible before dropping in the clutch or applying the brakes was greater than their desire or their need for gasoline.

The moral of the story is: Don't build on a hill just to be the first garage in a town; and if there are other reasons why you must, or should, build on the hill, put up a big sign at the top of the hill calling attention to your garage.



RATE YOUR PLACE WITH ALL OTHERS

Make Inspection Trip Through Your Town and Examine the Other Shops

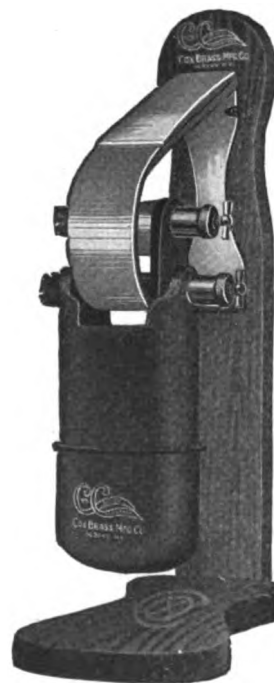
Every dealer should make a trip to his own town just to compare his place of business with the other ones and to determine what sort of impression it makes alongside of the others. He should go to the outskirts of the town and then come back and look around with the critical eye of a stranger. Probably the result will be astonishing; he may be surprised at the low rating he is obliged to give his own place of business in comparison with the others. On every hand he will find wonderfully attractive dry goods stores, grocery stores, drug stores, and even butcher shops and fruit stores. All have displays that please and hold the eye.

And Then—

Then when he goes back to his own place he will—or should—clean the windows, tear down some of the cheap enamel signs and posters, and make his place generally attractive.

The successful automobile salesman should try to anticipate the objections the prospect raises, and have arguments ready to combat them.

DISPLAY HELPS FOR THE DEALER



There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith. Manufacturers who supply these devices are urged to forward photographs or sketches of them.

The Cox Brass Mfg. Co., Albany, N. Y., is furnishing its dealers with this valuable display device. It not only displays the C-C shock absorber itself but shows it as actually attached to the rear spring of a motor car. This gives it distinct attention value and the display is so arranged that it cannot well fail to create more than passing interest in the device.

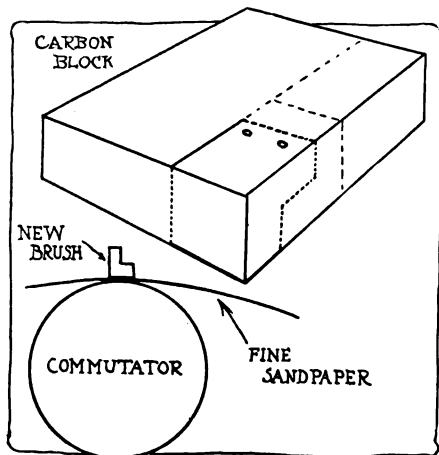
REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** Road Man

Whiffletree for Lifting Car (No. 119)

In doing work on the springs or axles of the car it is sometimes desirable to remove the weight from all four wheels at once. This can very easily be done by using a portable crane and hoisting the car up from its center of gravity—a point near the center of the chassis and probably just back of the front seat.

The only difficulty is in obtaining a firm hold on the car, and for this purpose a whiffletree is used. It consists of a wood beam 3 x 6 inches and 3 feet long, with a 3-foot chain with a hook on the end attached to each extremity. The center of the whiffletree has an eye which is attached to the crane hook.



(No. 120)

How carbon brushes may be cut from carbon blocks and formed to fit commutator

The tonneau floor boards are taken out and the whiffletree hooks are caught in the side frame members, and then the car may be lifted.—O. Osborne, Cosgrove & Osborne, Zanesville, O.

Cheaply Made Carbon Brushes (No. 120)

Brushes for starting motors and lighting generators can be made at a total cost of 25 cents each by buying large blocks of brush carbon and sawing them up. These brushes are satisfactory in every way, and considering that the retail price varies from 50 cents to \$1.50, there is a considerable profit to be made. Furthermore, a serious delay can often be avoided, as it is not desirable to stock brushes for which the demand is small.

A fine grade of brush carbon is purchased in a block of convenient size—say $1\frac{3}{4} \times 2\frac{3}{4} \times \frac{5}{8}$ inches. Any electrical supply store carries this material. With the old brushes to go by, new ones are made by the use of saw, file and drill, and when they are finished they are copper plated by means of a copper sulphate solution and two dry cells. The

cells are connected in series, and the brushes are attached to the negative wire. The positive wire must also be placed in the solution to complete the circuit, but it should not touch the negative wire.

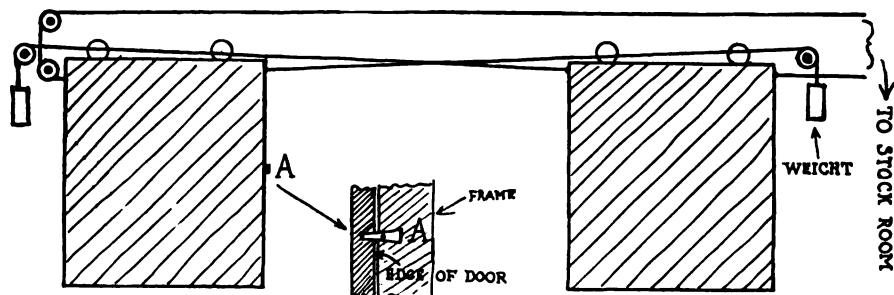
When the new brushes are in place it will be necessary to shape their faces to the curvature of the commutator, and this is done by passing very fine sandpaper back and forth between brush and commutator, as shown.—M. R. Potter, foreman, William Petry, Inc., Hudson, N. Y.

Garage Door Opening System (No. 121)

One method of opening and closing garage doors that experience has proved to be a success is illustrated. The doors are controlled from the stock room in this case, although this detail is not important. When a car is to be admitted, a pull on a convenient rope slides them apart; the attachment of these ropes is clearly illustrated. When the car has entered the release of the rope allows the doors to come together again, the motive power being the pull of two large window weights.

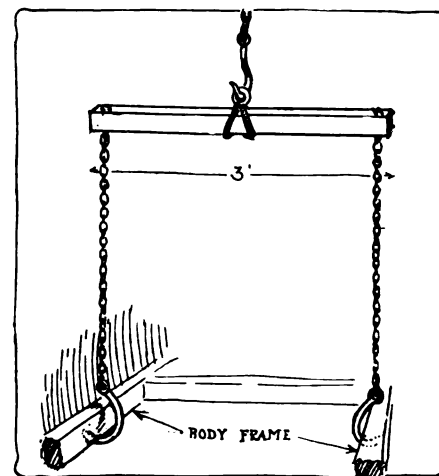
If for any reason it is desired to leave the doors open for a time the catch weight shown in the detail drawing is used, there being one for each door. These weights are pivoted just inside the doors and are fastened to the door casing. The shape of the weights is such that normally they remain vertical. When horizontal they prevent the doors from closing and are held in this position merely by the pressure of the doors. Whenever the stock room clerk notices that it is no longer necessary to have the doors open he pulls the door opening ropes; this takes the pressure off the catch weights so that they slip out of the way and the doors close.

The main advantage of this scheme is that it prevents the doors from being left open longer than is necessary, which is of especial importance in winter. It is up to the stock clerk to see that they are kept closed and it requires a minimum of time for him to see that this is done.—William Sickinger, Morgan & Williams, Warren, O.



(No. 121)

Diagram showing system of controlling sliding garage doors from a distance. Doors are opened by pulling rope and closed by weights



(No. 119)

A whiffletree and a pair of hooked chains will facilitate taking weight off wheels

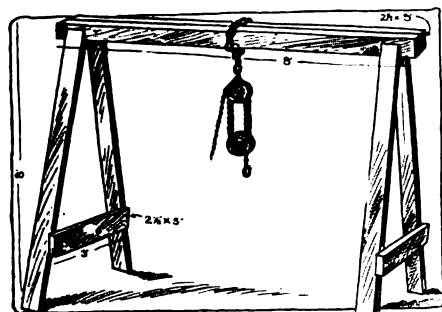
Raising Car for Spring Work (No. 122)

A large wooden horse may be used to advantage in holding the front or rear of a car while the axle is pulled out or work is done on the springs.

It is about 8 feet high and the same width, so that any car may be placed under it. From the center is suspended a chain hoist with which the lifting is done. In this particular case $2\frac{1}{2} \times 5$ -inch joists have been employed, and two are used for top members to insure greater strength.—J. O. Steele, Fourth-Chestnut Auto Repair Co., Columbus, O.

Turntable for a Small Garage (No. 123)

A turntable can often be used to advantage in the shop. It allows the maximum amount of space to be utilized for storing cars, and it minimizes the amount of time required for maneuvering cars into place. For example, here is shown a room just large enough for the repair of six cars, and the layout of the building is such that there is only one entrance and that a rather narrow one. In



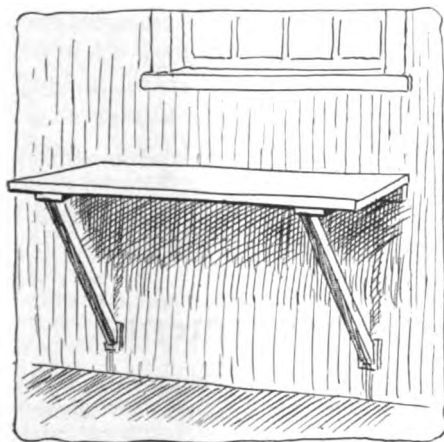
(No. 122)

Wooden horse, useful for raising car while doing work on front or rear springs

this case the turnable has been found to be nothing short of an absolute necessity.—William Sickinger, Morgan & Williams, Warren, O.

Ice-tong Type Hoist Grapple (No. 124)

Where the roof supporting beams are made of wood, an excellent grapple for



(No. 125)

A shelf back of each car provides a place for things and prevents disorder

hoisting can be made on the lines of ice tongs.

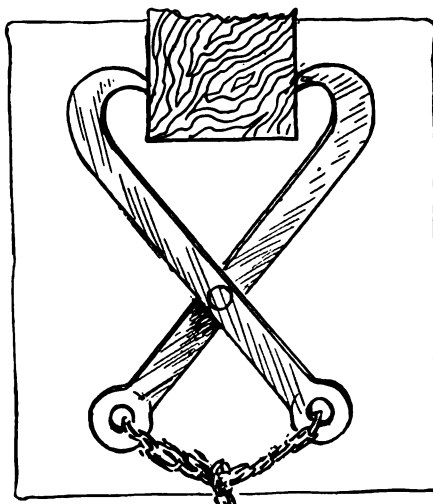
It is clear that the greater the weight on the device the deeper will the pointed prongs bite into the beam. Care must be taken in using it not to attempt too great a lift or part of the beam may be cut off.—Peck's Repairshop, Waterbury, Conn.

A Shelf for Each Car Space (No. 125)

To prevent floors and window ledges from being cluttered up with tools and parts that are being used by owners, it is a good plan to place around the walls a number of small shelves like those illustrated.—Tucker Garage, Middletown, Conn.

Swiveling Valve Grinding Tool (No. 126)

A valve-grinding tool with a swiveled end piece is not only more convenient to operate but also removes the possibility of the tool slipping out of the valve slot. The end piece which slips into the slot is pivoted so that the tool may be held at any reasonable angle. Ford valves, or others of this type, in which there are two holes instead of a slot, may be accommodated by using an



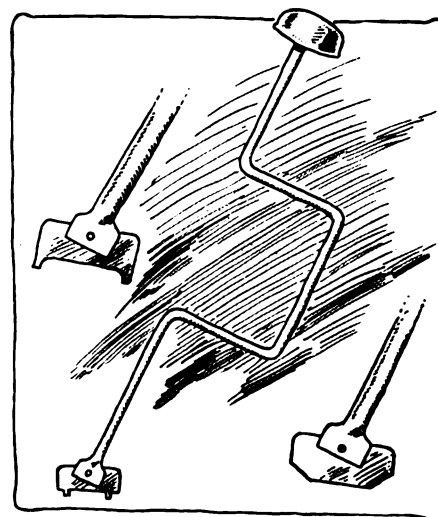
(No. 124)

A grip made like ice tongs permits the attachment of a hoist to a wood beam

end piece with two suitable projections. Thus one tool with different styles of end pieces may be used for all valves.—V. L. Warren, Ashtabula Garage, Ashtabula, O.

Simple Adjustable Gear Puller (No. 127)

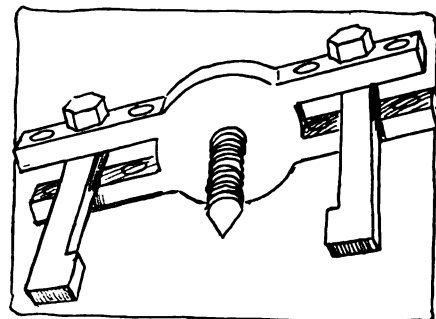
A gear puller that is adjustable to size of gear consists of six parts, the main member, the two hooks for catching hold



(No. 126)

A swiveled valve grinding tool makes valve grinding easier and prevents slipping

of the gear, the bolts which pivot these parts to the main member and the screw. The ends of the hooks are hardened steel, and it is important to make the



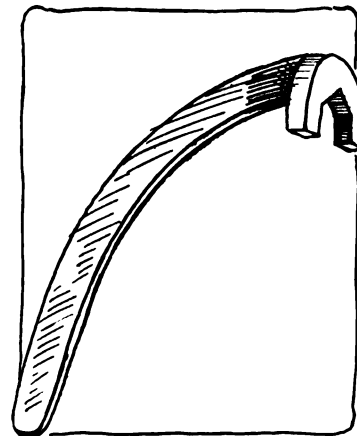
(No. 127)

This adjustable gear puller is substantial, easily made and consists of but six parts

hooks exactly the same length.—V. L. Warren, Ashtabula Garage, Ashtabula, O.

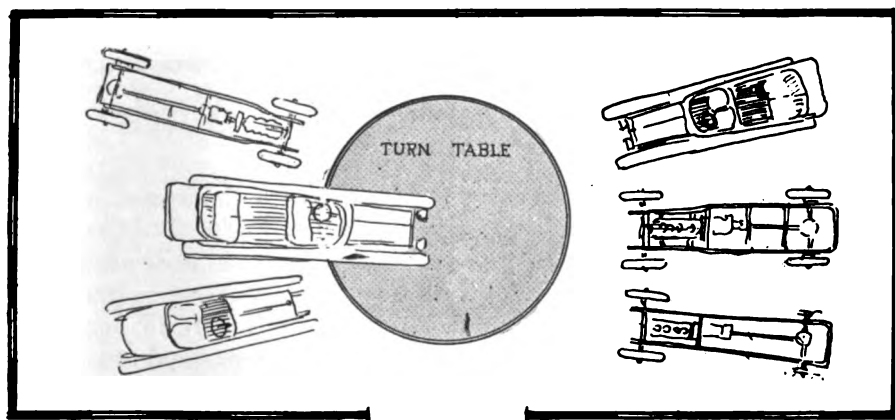
Wrenches of Unusual Shapes (No. 128)

Special wrenches for tight corners will often save time. One such wrench is here shown; there is hardly any limit to the designs that may be evolved.—V. L. Warner, Ashtabula Garage, Ashtabula, O.



(No. 128)

One of the many odd shapes in which wrenches for special service may be made



(No. 123)

This shows the lay-out of a small garage which has but one entrance and can handle 6 cars with the aid of the turntable. Without the table fewer cars could be housed



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The Octopus

MAIL order merchandising is unquestionably one of the problems of the dealer and garageman. They feel the competition. So great is the inroad of the many-tentacled octopus that the retailers of supplies and accessories are in many sections ready to do nearly anything to shake off this distant, cut-price competitor.

Through the medium of Better Business it is possible to "beat it out," as was told in Motor World last week. That is the way the individual, competing alone, may best work against the mail order merchandiser. He has service and his personality as weapons against which the octopus can do little.

Taking a Desperate Stand

This week on page 5 is the story of how another man plans to drive catalog competition out of his territory. He has asked the aid of all the dealers and garagemen with whom he is in contact and requests them to signify their willingness not to handle any of the goods that are permitted by manufacturers, directly or indirectly, to be sold by mail order houses and illustrated in their catalogs. It is a desperate stand, but it is a desperate situation.

Just how the jobbers themselves feel in this matter is indicated in a story on page 7. The National Association of Automobile Accessory Jobbers has taken action. It recommends a campaign against the listing of standard goods by mail order houses. It is going to do something. And what is more it can do something. The jobber is the big intermediary be-

tween the manufacturer and the ultimate consumer. The manufacturer would far rather have the support and good-will of the jobber than that of the octopus. If the jobbers speak they will have attention—and a lot of it.

"Sloppy" Methods

THE Campaign for Greater Profits which Motor World has been pushing has still another aspect which few garagemen consider. It is the necessity for care in filling the gasoline tanks of their customers. In nine cases out of the proverbial ten, the man who fills the tank will slop anything from a few drops of gasoline to half a pint over the paint on the car, the finish and nearly everything else in sight.

Making the Owner Sore

This is bad. Not only does the purchaser lose part of the fuel for which he is paying but the appearance of his car is spoiled. When the fuel dries it leaves whitish spots on the paint and the leather. If it is wiped up before it evaporates, there is grave danger of scratching the finish. These are the things that make the car owner sore and incline him to pay 1 cent more a gallon for his fuel from a garageman who is careful to get every drop of it into the tank. A little less speed and a little more care is needed.

Two New Departments

WITH this issue, Motor World inaugurates two new departments which are intended to assist the dealer, garageman and repairshop operator to a better understanding of the mechanical construction of the cars upon which they work and to render easier the making of repairs and adjustments. The first of these, Repairing and Adjusting, is, as the title suggests, a department devoted to the explanation of methods by which usual and unusual repairs can be made and to making plain the proper method of making such adjustments as may not be readily apparent. The second department, Facts About Cars, will contain many short items of an educational nature on subjects which are pertinent.

Advertise Your Work

ORGANIZATION among dealers and garagemen will be greatly accelerated and interest will be stimulated if publicity is given to the work of associations. A plan of publicity should be worked out by every association secretary. He should make it a practice to send stories to the daily papers in his town whenever there is any news, and there should be something about once a week at least. Motor World requests organization workers to send in news with frequency in order that organization work may be stimulated in spots where it does not now exist.

The RETAIL NEWS

SOUTH

The Fisk Rubber Co. has opened a branch in Birmingham, Ala., at 431 South 20th street. C. A. Hummel is manager. The branch will have charge of Alabama business.

The Sinkler-Price Co., Jacksonville, Fla., has moved into a new salesroom and service station at 925-927 Maine street. The building is fireproof, 35 x 170, two stories high with concrete floors and electric elevator. A complete repairshop occupies part of the upper floor.

The Central Garage has opened an accessory store and repairshop at 437 South Second street, Louisville, Ky. J. J. Gaffney is president.

The Empire Auto Sales Co., Empire dealer, has moved from 437 Second street to 624 South Third street, Louisville, Ky.

The Kentucky Motor Car Co., Cincinnati, O., formerly Oakland dealer in the Louisville territory, has discontinued its Louisville office at 725 South Third street.

The Hyatt Auto Repair Co. has opened a repairshop at 211 York street, Louisville, Ky.

The Rommel Motor Car Co., Louisville, Ky., has reduced its capital stock from \$25,000 to \$10,000. The limit of liabilities is fixed at \$10,000 instead of \$25,000, as in the original articles. John Rommel is president and William J. Sauer secretary.

J. E. Powers and F. F. Ammons, Selma, N. C., are about to open a motor livery business. The initial equipment consists of two Fords.

The Nashville Buick Auto Co., Nashville, Tenn., is completing a garage at 1231 Broadway. William Caldwell is manager.

SOUTHWEST

W. K. Davidson, Springfield, Mo., has opened up as a truck dealer. He has the Wichita.

Milton Peters and Harold Pemberton have opened an accessory and tire store at 506 North Central avenue, Phoenix, Ariz.

The F. Ronstad Co., Tucson, Ariz., has been purchased by Sam Davis and W. E. Harris and Harris & Davis will carry on a body building and car painting business.

The Auto Exchange, 2942 Olive street, St. Louis, has purchased the building it has occupied for some time and will remodel it for motor car sales and storage. The improvements will include plate glass windows, tile floors and a marble entrance. Frank Ebber is the manager.

Claude E. Vrooman, principal owner of the St. Regis apartments, St. Louis, plans to erect seven small garages at Kings Highway and Lindell boulevard for the accommodation of St. Regis tenants' cars.

The Gibbs-Brown Oil & Gasoline Co., St. Louis, has opened its tenth filling

station. The location is Washington avenue near Walter.

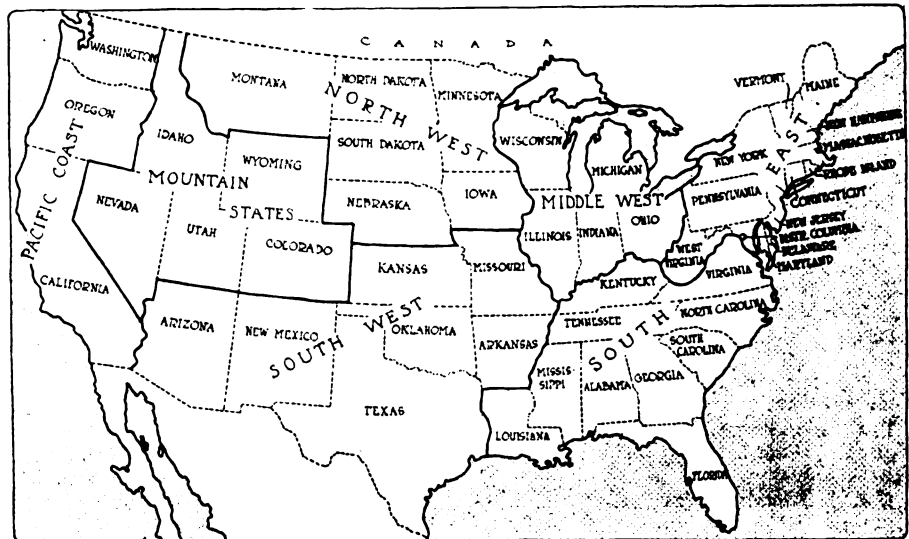
The Sands-Smith Motor Co., Kirksville, Mo., is preparing to equip a repairshop. Charles S. Sands is manager.

The Moyer Motor Car Co., 4900 Page avenue, St. Louis, has been appointed

acquired the business of the Hupmobile Sales Co. of Kansas City, at 1819 McGee street. The salesroom has been altered and improved.

The Federal Tire Co. has opened an agency in El Paso in the Overland building, with F. M. Bannell in charge.

The Retail News is classified in seven divisions as shown by the map below



distributor of the Apperson for St. Louis and adjacent territory.

The Kansas Auto School & Repair Co. has been granted a charter, with a capital of \$15,000. The incorporators are H. A. Heath, O. W. Hanson, C. P. Peace, J. C. Vanier and E. M. Hanson, all of Topeka, Kan., where the company will operate.

William Schreiber, late of the Frye Motor Co., St. Louis, has withdrawn his interest and formed a new company, which will distribute the King. It has moved into a salesroom and service station at 1423 Locust street, originally the home of the Cole in St. Louis.

O. J. Watson, Overland distributor, has arranged for the erection of a new building in Hutchinson, Kan. It will be completed within two months. It will be a branch of his Wichita company and will be managed by E. R. Morris.

The Lone Star Motor Co., El Paso, Tex., has moved into a new building at Chihuahua and Overland streets. It now has 24,000 feet of floor. The company has secured the southwestern distributing agency for the Chalmers. In addition to that car it handles the Dodge, Hupmobile and Chandler.

J. J. Murphy, who has sold the Hupmobile in Kansas City for four years, and William C. Howard, Detroit, have

The Monarch Auto Sales Co., a newly organized concern, has opened a service station and salesroom at 1419 Locust street, St. Louis, from which it will distribute the King in St. Louis, the eastern half of Missouri and the southern half of Illinois. E. A. Zahn is president, William Schreiber vice-president and sales manager, and C. A. Zahn secretary-treasurer. Asa W. Root, who has been connected with King for many years, has joined the new company and is now in northeast Missouri placing agencies. Schreiber is placing agencies in southern Illinois.

The Jenkins Motor Co., Savannah, Mo., has moved into its new building, which is 43 x 120, of fireproof construction of cement and brick with asbestos ceilings.

Harvey E. Powell has bought out his partner, M. Witaker, and will continue the garage business in Moscow Mills, Mo.

The Wiggins Garage, Temple, Tex., which was recently destroyed by fire, will be rebuilt by its owner, J. B. Conlisk, as soon as the insurance is adjusted.

EAST

Harry K. Noyes, for many years manager of the Buick wholesale branch in New England, has formed the Noyes-Buick Co. with headquarters in Boston.

The Lexington Sales Co., Philadelphia, has removed from North Broad and Race streets, where it was sharing quarters with the Marmon agency, to a salesroom of its own at 150 North Broad street. H. C. Henderson, manager of



the company, has secured the services of H. F. Otteni, formerly with the G. M. C. and Mitchell.

The Yingling Automobile & Carriage Co., Hagerstown, Md., has been incorporated with a capital stock of \$25,000 by Harry L. Yingling, Conrad Hausrath and Robert H. McCauley.

King and Chevrolet cars are now being handled in Syracuse, N. Y., by Arthur Morris, who has opened a large and well equipped salesroom on South Salina street.

Eugene I. Rosenfeld & Co., Inc., 8 South Howard street, Baltimore, has been made a distributor of the General Motors.

The Windsor Avenue Garage will be opened in the Royal Theater, 99 Windsor avenue, Hartford, Conn., which up to a short time ago was conducted as a moving picture house. It is being remodeled.

Hansen's Garage, 258 Main street, Hartford, Conn., has been taken over by G. R. Feather and R. E. Steere, who will conduct a repairshop in addition to a general garage business. Feather and Steere were lately identified with the Cole service station at 37 Mulberry street.

James H. Whaley, late of the Buick organization in Hartford, Conn., and more recently with the Chevrolet branch in New Haven, has returned to the sales department of the Hartford Buick Co., 356 Main street.

Edward S. Clark, Paige distributor, 183 Allyn street, Hartford, Conn., has taken the agency for the Lippard-Stewart truck in Hartford county.

The Economic Tire Repair Co. has opened a repair station on Wells street, Hartford, Conn.

J. & J. Klebe, Philadelphia, will build a garage, 49 x 125, on Dauphin street; the cost will be about \$4,000.

George Umbel has started excavation for a garage on the National road, Leatherwood, W. Va. It will be known as Everybody's Garage and will be built of tile and cement.

The Shaw Motor Co., Uniontown, Pa., is having plans drawn for a garage, 40 x 160, which will be built on Second street, Connellsville, Pa.

A. C. Overholt will build a garage on Hickory street, Scottdale, Pa., at a cost of \$20,000.

The Community Auto Co., Hudson Falls, N. Y., is erecting a garage at 14 Maine street.

The Armstrong Garage, Johnsonburg, Pa., is being enlarged by an addition, 40 x 40, which will accommodate 10 cars.

G. H. Keefe, Salem, Mass., has awarded the contract for a two-story garage, 54 x 97, to be built of reinforced concrete. The building will be on Essex street. The estimated cost is \$20,000.

C. A. Spear, Batavia, N. Y., has been appointed distributor of the Studebaker in central New York. His headquarters will be in Syracuse.

E. A. Carter is building a 1½-story garage, 35 x 44, at 162 Pear street, Springfield, Mass.

A. A. Geisel will build a two-story garage, 67 x 165, on Chestnut street, Springfield, Mass.

John T. Buckley, Baltimore, Md., will build a one-story garage at 916 Bolton street. The cost is estimated at \$15,000.

Henry W. Warfield, Timonium, Md., has called for bids for a one-story garage to cost \$5,000.

Goldberg Bros., Hartford, Conn., will build a four-story addition, 30 x 84, to their garage.

Norman R. Loomas, Troy, N. Y., will build a one-story garage, 50 x 62.

J. Simmons, Perth Amboy, N. J., has awarded the contract for a one-story garage, 50 x 100; the cost will be \$6,000.

Joseph Spiedel, Jr., Bethany, W. Va., will build a three-story garage, 22 x 52, at a cost of \$8,000.

S. H. Brixley is building a garage and repairshop in Tullahoma, Tenn.

A. F. Schunk will build a one-story garage, 46 x 113, on Lewis avenue, Milwaukee, Wis.

Max Lewis, Wilkes-Barre, Pa., will build a one-story garage, 42 x 128, at an estimated cost of \$8,000.

The Lord Baltimore Truck Co., Bank and Fifth streets, Baltimore, has the Goodyear truck tire agency. E. C. Heid, who for three years was connected with the local Goodyear branch, has assumed charge of the tire sales force. A service station has been equipped with a 170-ton hydraulic press and other machinery for the application of the tires.

Hamilton W. Jones, late of the New Haven Carriage Co. and the Columbia Motor Car Co., has joined the Britton Co., Hartford, Conn., state distributor of the Stearns-Knight, and will have charge of Stearns sales throughout this territory.

The Motor Tire Co. has established a sales depot at 40 High street, Hartford, Conn.

Abrams & Shield, King dealers, are building a new salesroom and garage in Plainfield, N. J. They have changed their name to the A. & S. Motor Co. and are located at 337-339 West Front street.

J. A. MacDonald, who resigned as president of the Providence Motor Car Co., Providence, R. I., the company having temporarily left the motor car business, has taken the agency for the Jackson in Rhode Island. He is making his headquarters at the Broadway Garage on Dean street. The Providence Motor Car Co. will continue its tire business at a new stand on Empire street.

The Park Garage, South Manchester, Conn., has been made Paige-Detroit distributor in place of Watkins Bros., who have retired from automobile selling entirely.

Kingsbury & Wetherell, Inc., Hartford, Conn., Moon and King dealers, have leased the store at 11 Main street and are fitting it up for a salesroom. The service station at 59 Congress street will be retained.

Fred L. Bragg, late of the Overland-Connecticut Co., Hartford, Conn., state distributor of the Overland, recently succeeded by the Overland-Hartford Co. at the same location, has been appointed sales manager of the J. H. Stuart Co., Overland distributor in Burlington, Vt.

Harold E. Corson, who retired from the automobile business last October after 14 years of it in Springfield, Mass., where he had organized an agency and handled the Ford, has gone back into the field again. He has formed the Corson-Berry Co. to handle the Studebaker line there with headquarters at Winchester Square, State and Sherman streets. Berry is a prominent tobacco salesman. John Mullarky, Jr., for 10 years with Corson, has charge of the service department, and W. I. Stearns,

Jr., until recently manager of the Blue Ribbon Garage, is outside salesman.

The Market Garage, Parkersburg, W. Va., has been renamed Central Garage by O. D. Strater, the owner.

The Central Automobile Co., Clarksburg, W. Va., has erected an addition, 50 x 60, and one story high.

The Overland Rochester Motor Car Co., Rochester, N. Y., has purchased a site upon which it will build a \$60,000 garage and showroom. The building will be three stories high, of concrete, and will stand at 28 South Union street.

Miles H. Alboine, Rockford, Conn., will build a garage.

Ambrose List will build a one-story garage in Wheeling, W. Va.

M. C. Barrett, Springfield, Mass., will erect a brick garage, 62 x 66, at a cost of \$12,000.

Corey & Smith, who handled the B. R. shock absorber in Worcester, Mass., have dissolved following the failure of the manufacturer, the B. R. Shock Absorber Co.

Charles R. Hastings will build a two-story brick garage, 52 x 60, in Fitchburg, Mass.

William S. Griswold will erect an \$11,000 garage at 1919 State street, Erie, Pa. It will be 155 x 75, of brick, steel and concrete.

The Monticello Garage, Clarksburg, W. Va., has been leased by the Newcomer Auto & Supply Co. and the two plants will be consolidated.

The Ransome Motor Car Co., Clarksburg, W. Va., has recently taken possession of a new one-story brick building, 40 x 80, containing a showroom for the display of the Chevrolet. J. F. Ransome is the owner.

Frank B. Donovan, Inc., Baltimore, handles the Studebaker in Maryland. Donovan, who is the treasurer and general manager of the company, was for a long time associated with the Donovan Motor Car Co., Boston. Frank Carthew, of Boston, who is heavily interested in the C. & B. X-Ray Tube Co., manufacturer of X-ray tubes, is president of Frank B. Donovan, Inc. It is expected that Carthew will in a short time establish an agency for his tires here. Donovan has obtained the services of E. R. Maurer, recently service supervisor for the Studebaker New York branch and formerly of the factory engineering department.

MIDDLE WEST

The Arbogast Tire & Supply Co., distributors in northwestern Ohio of the Racine tire, has taken a lease on larger quarters at 126 Erie street, Toledo, which is adjacent to the present location.

The Packard Cleveland Motor Co., Cleveland, is opening a branch in Canton, under the management of R. R. Sharp. He formerly was superintendent in the Cleveland establishment.

Brush & Heinz, Elyria, O., has opened a garage on Broad street. The building is 75 x 100 feet, one story high and made of brick. There is a showroom and accessory store at the front.

Angier Wilson, Dixon, Ill., has let the contract for a new fireproof garage, 90 x 150 feet, and work will commence at once. The repair department will be in the rear while the front end will be utilized as a salesroom.

T. H. McGiehan, late vice-president and general manager of the Motz Tire

& Rubber Co., Akron, O., has opened a large retail and wholesale accessory establishment at 1537 Canal street, New Orleans, La. McGiehan represents several leading manufacturers in the southern states. The store and location is one of the finest in the city.

Christman & Poole, Jefferson building, Milwaukee, state agent for the Burd piston rings, has changed the firm name to Burd Ring Sales Co.

Henry Lieby will erect a three-story garage on Peterson alley, Akron, O.

The Sidney Auto Sales Co., Sidney, O., has moved into a new two-story concrete block garage, 60 x 75 feet. The Ford and a full line of accessories are handled.

Walter S. Barrett, Chillicothe, O., Buick and Regal dealer, plans to change his present accessory store into a showroom for cars.

The Stephan Mfg. Co., Freeport, Ill., has been incorporated and will sell cars and accessories. Fred Rice is president; Howard Rice, vice-president; A. M. Stephan, secretary, and Mrs. Bessie B. Stephan, treasurer. A gasoline saving device invented by Mr. Stephan will be manufactured and distributed.

William Looney, La Salle, Wis., and J. Gramburger, the latter formerly with the Central Garage Co., have opened a new garage and repairshop at Fifth and Peoria streets.

The Motor Car Sales Co., Bloomington, has been licensed by the secretary of state. The incorporators are Jesse Rice, W. L. Hinkle and W. C. Hadliff. The capital stock is \$25,000. The new firm will distribute the Chalmers and Dodge Bros. car in five central Illinois counties—McLean, Livingston, Ford, De Witt and Logan. The senior member of the firm, W. L. Hinkle, has been salesman with C. U. Williams & Son, automobile dealer, for four years.

Vosson & Son have opened a garage in New Baltimore, Mich. They will handle the Overland and Ford, also a line of accessories.

A. G. Faist has bought the Eisenman property in Chelsea, Mich. He will replace it by a modern garage and repairshop. He may also handle a medium-priced car.

J. L. DeBerry, Toledo, O., has been made manager of sales of the Federal trucks in northwestern Ohio.

The Packard Motor Car Co. will build a service station in Chicago at a cost of \$125,000. It will be five stories high, 70 x 150 feet, and of steel and brick.

The Brown Supply Co., Toledo, has taken a long lease on a store at Jefferson and Erie streets and will carry a complete line of accessories. The stock will be twice as large as in the old location at 126 Erie street.

The McClure Tire & Rubber Co., Columbus, has enlarged its quarters at 181 East Gay street. James McClure is manager.

The Golson Auto Co., Cleveland, which handles the Sphinx, will remove from 1909 East 13th to 1902 East 13th.

The Capital Motor Car Co., Columbus, central Ohio distributor of the Reo, has been made distributor of the Pierce-Arrow also. Ira P. Madden is president.

The Access Auto Co., Arcadia and Fostoria, O., has opened a branch at 114 East Main Cross street, Findlay, O. The Paterson will be handled. Earl Emerson is in charge.

Ernest & Panairo plan to construct a

steel and brick garage at 11th and Market streets, San Francisco, at a cost of \$100,000.

M. E. Marting, proprietor of the Marting Garage, Ashland, O., will erect a large fireproof garage to accommodate his business which has outgrown its present quarters.

H. H. Collier, proprietor of Collier's Garage, Belvidere, Ill., will enlarge his salesroom and service station at Logan avenue and Whitney street. An addition of a story will double the capacity of the building.

The Andrews Motor Co. has been formed in Rockland, Ill., to handle the Lewis and Scripps-Booth. The sales department will be at the Marmon Garage on West State street.

The Gage Auto Co., Logan, O., is building a brick garage, 56 x 156. The first floor will be used as a salesroom and the second floor for new car storage with a repairshop at the rear.

A. H. Gehardt, Green Bay, Mich., has opened the Overland Garage in the Fred Miller building.

The F. H. Guretzmacher Auto Co. is putting up a building on Maine street, Shawano, Wis., and will do repairing and painting.

The Palace Garage, Fremont, O., has just completed a modern showroom adjacent to the garage. The floor is white tile and the walls are cream colored—an attractive combination. The Overland is sold.

J. B. Duffy & Sons, Fostoria, O., have opened a garage and accessory store. A feature of the building is that the complete interior is enameled white. The building measures 132 x 66 feet.

The Electrical Construction Co., Findlay, O., is about to move into a new showroom and accessory store adjacent to the present store. The Ohio electric, Overland and Cadillac are sold.

Rummel's Garage & Auto Service Station, Findlay, O., is building a two-story addition, 45 x 75 feet. Hollow tile and metal sash are the features.

The Standard Garage, Lima, O., has sold out to a company that will use the building for furniture storage.

W. R. Nunnaugh, Lima, O., has purchased the Lima Garage from W. L. McClain and is building a showroom for Maxwell cars.

NORTHWEST

Leo Stevens, a prominent banker of Des Moines, Ia., president of the Iowa Bankers' Association and president of the Capital City Club, has entered the automobile business with his son Fred. They have formed a partnership with the Holsman Automobile Co. to handle the King eight. The firm name has been changed to the Holsman-Stevens Auto Co.

The Iowa Automobile & Supply Co., Des Moines, will spend \$10,000 in enlarging and remodeling its garage on Fourth street. An additional elevator will be put in and 9,000 feet of additional space on the second floor.

The Northwest Kissel Car Co., 1300 Hennepin avenue, Minneapolis, has been discontinued as the Kissel agency, pending a settlement of claims made by Harrison C. Vogel, the dealer. It is said that contract complications are at the root of the matter.

The Twin City Motor Car Co., St. Paul, at a recent meeting of the directors

elected Paul J. Kalman, president; John P. Upham, vice-president and treasurer; William G. Graves, secretary; and J. R. Heisted, sales manager. W. P. Abbey is in charge of the wholesale department. The company is distributor of the Hudson.

PACIFIC COAST

Charles H. Kaar, Stockton, Cal., owner of the Bakersfield Studebaker Garage, has taken the agency for the Studebaker line for San Joaquin and Stanislaus counties with headquarters at 417 East Weber avenue.

C. E. White, owner of the Model Vulcanizing Works, Flower and 12th streets, Los Angeles, has formed a partnership with H. H. Holmes. They will sell and repair tires at 912 South Olive street under the name of Olive Vulcanizing Works.

The L. H. Rose-Chalmers Co., Chalmers distributor in San Francisco, has opened salesrooms and offices on automobile row, and one of the largest and best equipped service stations in the west is operated near by. L. H. Rose has been identified with the motor car business for more than ten years; he has established for the Chalmers sales and service branches in San Francisco, Oakland and Sacramento.

W. K. Cowan has been appointed sales manager of the William Reuss Co., Los Angeles, distributor of the Mitchell and Stearns-Knight in southern California, Arizona and Nevada. Cowan took up the Waverley electric in 1899, and the single cylinder Rambler in 1902, and continued to handle the Jeffery product until last fall. He succeeds Joseph M. McDuffie of the Reuss organization, who is now sales manager for the new Willys-Knight.

J. M. McClurg will build a one-story brick garage for commercial cars at Broadway and Brook street, Oakland, Cal. It will cost about \$7,000.

L. E. McKenzie, of the Studebaker traveling force, has been made assistant manager of the Portland branch under A. H. Brown.

W. C. Seachrist, Portland, has completed a one-story commercial garage, 50 x 100 feet, at Fourth and Lincoln streets.

James J. Canavan, former member of the Vance-Canavan Co., Cartercar and Case dealer in southern California and Arizona, is now interested in the Pioneer Commercial Auto Co., Los Angeles. He has been made sales manager of the organization, which has the southern California territory for the White car and truck.

W. T. Fishleigh, until recently head of the automobile department of the College of Engineering at the University of Michigan, has been appointed head of the technical department of the Los Angeles Apperson branch. This branch controls California, Arizona and Nevada and is managed by Harris Hanshue, former racing driver and classmate of Fishleigh at Ann Arbor.

W. H. Hilgers, hotel proprietor in Jordan, Minn., is building a garage to hold 35 cars.



Two Eights and a Four in Jackson 1916 Line

Smaller Eight Will Sell for \$1,195 and the Larger One at \$1,685—Four, With $3\frac{1}{2}$ x 5 Motor, to List at \$985

JACKSON, MICH., July 24—The Jackson Automobile Co. will have three new models for 1916, two eights and a four. These replace the four- and six-cylinder 1915 models. The eights are in two sizes, the smaller, styled the 34, having 112-inch wheelbase and selling at \$1,195, with $2\frac{7}{8}$ x $4\frac{3}{4}$ motor, and the larger, model 68, having 124-inch wheelbase and seven-passenger body and selling for \$1,685, with $3\frac{1}{2}$ x $4\frac{1}{2}$ motor. The four will have $3\frac{1}{2}$ x 5 cylinders, a wheelbase of 112 inches and will sell for \$985.

After Short Measures in Texas

A recent inspection of gasoline pumps operated by garages in Dallas, made by B. J. Flood, city inspector of weights and measures, brought to light that some of the pumps were giving short measures. In a few instances the pumps had been so changed as to give as much as one-half pint short to the quart. The municipal authorities of other cities of Texas plan to conduct a similar investigation with the view of correcting any short pump measures that may be found to exist.

Jitney Company in Savannah

SAVANNAH, GA., July 22—To operate jitney buses the Savannah Autobus Co., with an authorized capital of \$250,000 has been organized. It is expected to begin operations about the middle of next month with 10 cars.

To Build Midget in Springfield

SPRINGFIELD, MASS., July 22—The Midget is the name of a cyclecar that is to be built in this city by C. S. Root and Lincoln E. Bartlett. The car weighs about 600 pounds and will sell for \$325. The motor is a two-cylinder, four cycle type, water-cooled, $3\frac{3}{4}$ x 4. The transmission is friction with three speeds forward and reverse. A special arrangement of the springs does away with both axles. The wheelbase is 102 inches and the tread 36. It is especially designed for mail delivery.

Overland Ships 9,000 in June

TOLEDO, O., July 23—June Overland shipments amounted to 9,010 cars and show an increase of 163 per cent over those of June, 1914, when 3,298 cars left the Toledo factory. In the first six months of the calendar year the company has shipped almost as many

cars as during 1914, practically doubling last year's output.

The previous high-water mark in Overland production was in the month of March, when 7,005 cars were shipped.

Hannibal to Add 1,200-Pound Truck

HANNIBAL, MO., July 24—N. L. LaBlond, manager of the Hannibal Wagon Co., announced today that his company soon would begin the manufacture of a light commercial motor truck the price of which will be in the neighborhood of \$500. The new vehicle will be known as the Hannibal truck. A large extension to the wagon plant at South 10th and Collier streets is now being planned. The motor will be 25 horsepower and the capacity of the truck 1,200 pounds.

Allen Four to Sell at \$795

FOSTORIA, O., July 24—The Allen Motor Co. has priced the Allen for 1916 in roadster and touring form at \$795. The car is fitted with a four-cylinder $3\frac{3}{4}$ x 5 motor, Stromberg carbureter, Westinghouse lighting and starting and Stewart vacuum feed. The wheelbase is 112 inches and tires are 32 inches.

Premier to Move to St. Paul

INDIANAPOLIS, July 24—That the Premier Motor Mfg. Co. is seriously considering a removal of its plant to St. Paul, Minn., is the assertion of Frank E. Smith. Details have not yet been made public though it is said that the arrangement probably will be completed within the next 30 days.

Electrically Equipped Monroe at \$495

FLINT, MICH., July 24—The 1916 Monroe car, produced by the Chevrolet Motor Co., will sell for \$495 with electric lighting and starting equipment. Few other changes have been made in the chassis. The motor is a 3 x $3\frac{3}{4}$, the transmission elements including a cone clutch and three-speed gearset.

Big Increase for Fuller Transmissions

KALAMAZOO, MICH., July 24—Fuller & Sons Mfg. Co. shortly will commence construction of a large fire-proof addition to its existing plant. The capacity of the plant will be increased two and one-half times.

Kissel to Continue 42-Six

HARTFORD, WIS., July 24—The Kissel Motor Car Co. will continue for the 1916 season its 42-six with practically no chassis changes. The "All-year" car also will be continued.

Stevens-Duryea Parts Business Intact

CHICOPEE FALLS, MASS., July 24—The parts business of the Stevens-Duryea Co. remains intact and the manufacture and sale of parts continues under the management of Wm. M. Remington.

Hub Dealers Considering Headlamp Glare Problem

Massachusetts Highway Commission to Conduct a Series of Tests on Dimmers and Anti-glare Devices —Inventors Invited

BOSTON, July 24—The Massachusetts Highway Commission had a hearing this week on the problem of regulating headlights on motor cars. It was attended by dealers, owners and others. After the matter was generally discussed the commission decided to have a series of tests at the Country Club, Brookline, Mass., on Monday evening, August 9, from 6:30 on. The committee in charge of the tests comprise President John H. MacAlman of the Boston Automobile Dealers Association, Secretary James Fortesque of the Massachusetts State A. A., and James T. Sullivan, automobile editor of the Boston Globe. Makers of lamps and dimmers are invited to be present with their devices.

18 Tractor Makers Will Exhibit

SIOUX FALLS, IA., July 24—Eighteen manufacturers have signed to exhibit in the tractor show which will be staged here during the third week in August. They are: Bull Tractor Co., Helder Mfg. Co., International Harvester Co., Rock Island Plow Co., J. I. Case Plow Co., P. & O. Plow Co., John Deere Plow Co., Huber Mfg. Co., Peoria Tractor Co., Lininger Implement Co., J. I. Case T. M. Co., Emerson-Brantingham Co., Oliver Chilled Plow Co., La Crosse Implement Co., Nilson Farm Implement Co., Farm Horse Tractor, C. O. D. Gas Tractor Co., Avery Mfg. Co., Simplex Tractor Co.

Saxon "150-Miles-a-Day" Run

ST. LOUIS, July 24—Charles Toman, of the Saxon-Park Automobile Co., last week began driving a "150-miles-a-day" Saxon which he says he will drive that distance each day for 20 days. The average consumption of gasoline so far is 1 gallon to 31 miles.

To Distribute Sphinx in Northwest

The Santwier-Finley Co. has been formed in Minneapolis to act as distributor of Sphinx cars in the Northwest. Salesrooms and a service station have been established at 1025 Hennepin avenue.

Home-made Gas Kills Garageman

C. S. Hall, Colton, S. D., was killed in an acetylene gas explosion which wrecked his garage recently. The explosion was caused by a home-made acetylene machine.

Detroiters Lead Olds Contest for Salesmen

**Lowrie, East and Groesbeck at the Fore
at Beginning of Month—Los An-
geles Men Reaching for
Fourth and Fifth**

LANSING, July 26—In the salesmen's contest of the Olds Motor Works, three Detroit salesmen occupied the first three positions at the beginning of this month. They were R. C. Lowrie, J. H. East and F. H. Groesbeck. Fourth place was occupied by M. J. Rice, of the Los Angeles Olds Motor Works branch. Another Los Angeles salesman, H. G. Salisbury, was tied for fifth place with S. H. Goldstein, of Philadelphia. Seventh place was another tie between another Detroit, F. Post, and F. G. Motz, Buffalo. The ninth place had three men with an even score, W. G. Marten, Chicago; E. A. Maginnis, Los Angeles, and R. W. Turner, Buffalo.

While no definite information is given out as to the score of each contestant, it is known that several among the leaders are keeping very close to each other. The sales contest between four men in the advertising and sales departments which was in progress since January and dealt with Model 55 only, ended June 1, and the winner was Sales Manager J. V. Hall. C. V. McGuire, advertising manager, took second place from Assistant Sales Manager N. W. Barton.

Continental Enlarges in Muskegon

The Continental Motor Mfg. Co., Detroit, is making extensive additions to its Muskegon, Mich., plant, which is devoted almost exclusively to the production of four-cylinder motors. Two reinforced concrete buildings, four stories in height, will be constructed, one being 54 x 150 feet and the other 70 x 330. Production of four-cylinder motors will be increased from 4,000 to 6,000 per month.

Post Stearns New York Sales Manager

NEW YORK, July 25—The F. B. Stearns Co., of New York, has appointed F. W. Post, Jr., sales manager. With Secretary Thomas R. Jacobs he will perform the duties previously performed by Wm. Arthur Lesser, who was killed in an automobile accident recently.

May Move Examination Office

NEWARK, N. J., July 26—The dealers of this city are up in arms over the proposal of State Motor Vehicle Commissioner W. L. Dill to remove his office for the examination and licensing of chauffeurs and private owners from Newark to some other city. At present the examination is made in the streets ad-

jacent to the City Hall and it is to eliminate traffic congestion that the removal is proposed. Both Jersey City and Paterson have been mentioned as the proposed location for the office.

Haynes Men Develop Sun Six at \$1,000

BUFFALO, N. Y., July 27—The Sun Motor Car Co. has been incorporated with a capital stock of \$750,000 to manufacture a six-cylinder car to list at \$1,000 or less. The James silk mill property, located in Buffalo and Lackawanna at the junction of the Buffalo, Rochester & Pittsburgh railroad with the Parkway, has been secured, the Sun company purchasing the entire property which embraces 4 acres. The Sun company will immediately occupy one story of this building, which covers 17,000 square feet. In addition, 6 acres of land adjoining this property has been purchased, and contracts for a new factory 600 x 150 feet, let. The new factory will be of reinforced concrete construction and is to be completed in 90 days.

The Sun Motor Car Co. has as its leading spirit R. Crawford, until recently sales manager of the Haynes Automobile Co., and also associated with him is R. C. Hoffman from the same concern. Mr. Crawford conceived the plans for a small six a year ago, and later organized the Automobile Engineering Co., an Illinois corporation, for the purpose of designing and building experimental cars.

The Sun six is fitted with a high-speed motor claimed to develop 55 horsepower. The company plans to build 2,000 of these in the 12 months following the completion of the factory.

Already a selling organization has been developed and distribution will be largely confined to such centers as New York, Chicago, Boston, Philadelphia, Pittsburgh, Cleveland, Buffalo, Detroit, Cincinnati, Indianapolis, St. Louis, Kansas City, New Orleans, Minneapolis, Milwaukee, Omaha, Denver, Salt Lake City, San Francisco, Los Angeles, Dallas and Atlanta.

Rogers Enters Trade for Himself

Mason T. Rogers, up to the present time manager of the Buffalo, N. Y. branch of the Packard Motor Car Co., has resigned to enter business for himself. He has formed a firm styled M. T. Rogers & Co. and has associated with him C. W. Burton, formerly of the Daniel Green Felt Shoe Co.; L. E. Moore, formerly connected with the Packard Philadelphia branch, and E. C. Fish, recently connected with the Buffalo Hudson company.

Gilmore Quits Retail Field

BOSTON, July 26—E. A. Gilmore has given up the motor car business as a dealer. He handled the Lewis and Allen cars for New England with headquarters at 90 Massachusetts avenue.

Would Place a Check on Drawing Account Idlers

**Chicago Association Member Reveals
Startling Statistics—Cost \$1,000
to Sell a Car That Listed at
Only \$750**

CHICAGO, July 26—How to eliminate the inefficient drawing-account salesman, who goes from account to account, is a problem that has been brought up in the Chicago Automobile Trade Association by Harry Newman, vice-president and general manager of the Western States Automobile Co., Scripps-Booth, Enger and Premier dealer. He presented his views to his fellow workers in a brief address.

"While figuring the cost of space," he said, "which our men in grimy overalls occupy in our shops, we have neglected entirely to figure the cost and earning capacity of our most expensive space—that occupied by our salesmen.

"I earnestly suggest establishing in the trade association a clearing house for salesmen, to which we can refer and rid our payrolls of men who are proven failures, and to clean this row of those scavengers who have lived on its profits for the past five or ten years without a proper return.

"I have just checked one man's record who has been in the employ of some of you men here today who are known as representative Chicago business men. I find that in two years this man has drawn in salaries and drawing accounts from five different employers the sum of six thousand dollars. In that time he has sold five cars—never having had a square deal any place. This is an average of a little over one thousand dollars a car selling cost, and three of the cars which he sold listed at seven hundred and fifty dollars apiece.

"It is often our tendency when asked concerning a man who has been in our employ, to say: 'Well, he is a good man, and while he didn't do very well for us we believe that in a new environment he might succeed.' This is not the truth, but we do not wish to do the man an injustice, and so pass him on to rob another competitor's payroll.

"If we could eliminate these worst of trade bums from our field of endeavor we will have saved thousands of dollars annually.

"We are all so very anxious to secure men with sales ability that any man with a clean face, a fresh shave and a clean collar can secure a position from us with scarcely any investigation as to his past work. We follow the old methods in asking for references and receive only those where a man has been successful.

"So anxious are we to secure good men that when a man tells us of his sales ability we are inclined to agree with him from the very start, and if his experience has in it some failure in any employment of some other automobile dealer, we are inclined to believe that that dealer was not as good a manager as we are, or that this man evidently has ability and was not given a fair

show—or we believe the salesman's story that the former employer treated him unfairly.

"We do this, not because we want to be unfair to our competitor, but because we are so constantly striving to secure good men in our sales departments. This row has lost on an average of seventy-five to one hundred and fifty thousand dollars a year for the last five years in the payment of drawing accounts and salaries to unscrupulous salesmen, or men with no ability except to warm a chair in a nicely equipped sales-room.

"Along this line I would suggest that a separate organization for the salesmen be formed, with their own head, their own officers and directors, to be supervised by a committee from the trade association, and to hold their regular meetings and be advised by this association in a way that they may discipline themselves to a certain extent and learn by actual contact what we are trying to accomplish.

"Most of the gossip which is peddled up and down the row does not come from us directly, but is the gossip of an idle salesman who evidently repeated that gossip which some other salesman has told him, and no matter how high-minded our ideals may be they can never reach their full force or the highest peak of their load without eliminating from our sales forces those men who are not serious-minded business men."

Potomac and Ohio Blue Book

NEW YORK, July 26—The Automobile Blue Book Publishing Co., 239 West 39th street, New York, will add a new volume to its present series of Blue Books on road directions covering the territory in the southeast below the Potomac and Ohio rivers. Up to the present this territory has been covered partially by Vol. 3, covering New Jersey and Pennsylvania, Delaware and Maryland, and Vol. 4, covering the middle west, but the increase in touring in the southeast and because of greater road activity, the Dixie Highway being a typical example, a separate Blue Book will cover this territory in 1916. The Blue Book cars have already started out over the roads in this territory to get the exact road conditions and to write road guide information and will continue this work until late in the fall.

In this route work the leading thoroughfares between large centers will be covered with odometer mileages, some of these being Washington to Atlanta, Jacksonville and New Orleans; Louisville and Nashville to Chattanooga, Atlanta, Florida and Gulf of Mexico; Richmond to Ashville, Chattanooga, Knoxville, Nashville and Memphis, and New Orleans to Mobile and Jacksonville. After this, secondary connecting routes will be gone over and odometer mileages written so that the tourist will be able to reach the majority of places without having to make local inquiries. The Blue Book company is also preparing a series of general index maps, by reference to which the smallest villages in this territory can be located.

Colorado Gets Law on Workers' Compensation

Effective August 1, but Dealers and Garagemen Are Not Worried—Means Few Changes and Is Not Drastic

DENVER, July 26—A workmen's compensation law goes into effect in Colorado August 1, but it is creating little apprehension among dealers and garagemen because it will not impose upon them any conditions which are regarded as drastic or which will necessitate any material changes.

The compensation makes employees' liability insurance compulsory, but most employers are already carrying some protection of this kind; also, employers of less than four regular employees are not included, although they may by election come within the terms of the law. Employees of employers who elect to come under the law are assumed also to come under the law unless notice to the contrary is filed with the commission.

The state fund creates competition with the mutual companies in that its rates are 5 per cent lower than those of the stock or mutual companies. This reduction is intended to offset the soliciting forces of the stock and mutual companies, for the state will not employ solicitors. Also, any man able to convince the commission that he is competent to carry his own insurance need not insure.

The law follows the usual practice in measures adopted in some other states, providing for a commission, the filing of information by employers, penalties for violations, and the creation of a fund. Proportionate payments for different disabilities are fixed, as is the payment to dependents. Employees can collect but 50 per cent of the established compensation if they neglect to use safety devices, disobey safety rules or are intoxicated.

The New Olds "8"—\$1,295

LANSING, MICH., July 26—First details of the new \$1,295 eight-cylinder model which has been added by the Olds Motor Works reveal that the car is strikingly different in appearance from other Oldsmobiles. The hood, which covers the conventional V-type motor with cylinders $2\frac{7}{8} \times 4\frac{3}{4}$ inches, is rounded at the top with the radiator in the form of a half ellipse. Side lamps are eliminated and for city driving smaller lamps are mounted atop the headlamps.

The wheelbase is 120 inches, tires being 33 x 4 straight side, and the transmission elements include a cone clutch, three-speed gearset and floating axle with spiral type gears. Engine and gear-

set are a unit. Springs are semi-elliptic front and three-quarter-elliptic rear. Equipment includes Delco lighting, starting and ignition, electric horn, Stewart speedometer and clock.

Stearns Light Four Reduced \$355

CLEVELAND, July 26—The F. B. Stearns Co. has reduced the price of its light four Knight car \$355, the new price being \$1,395. At this price the car is practically the same as for the 1915 season but with improvements in body design and added mechanical refinements. The body refinements are merely detail changes to bring the appearance of the car up to the latest dictates of body fashion. Mechanically the car is practically unchanged except for the addition of Westinghouse apparatus.

New Stutz Roadster at \$2,100

INDIANAPOLIS, July 24—The Stutz Motor Car Co. has brought out a four-cylinder roadster model at \$2,100 which is one of the Series C designs. It is fitted with a slightly lower gear than the Bearcat model and is therefore not as fast, being designed more for all-around use than for high speed. The motor dimensions are $4\frac{3}{4} \times 5\frac{1}{2}$ and the other important data regarding the chassis features include pressure oiling system, Remy electric lighting and starting, Stutz gearset and rear axle, Timken front axle, semi-elliptic front and rear springs, and 34 x $4\frac{1}{2}$ tires. The wheelbase is 120 inches.

Arbenz Four at \$675

CHILLICOTHE, O., July 26—The Arbenz Car Co. has placed on the market a new four-cylinder model which is to sell for \$675. It is fitted with a $3\frac{1}{4} \times 5$ block motor with a removable cylinder head and cooled on the thermo-siphon plan. The transmission elements include a cone clutch, three-speed selective gearset and full-floating rear axle. The wheelbase is 108 inches and tires are 30 x $3\frac{1}{2}$. Equipment includes a one-man top, electric horn, Stewart speedometer and electric lighting and starting apparatus.

King Roadster Has Larger Motor

DETROIT, July 24—The King Motor Car Co. has added a three-passenger roadster model which is mounted on the regular King 113-inch wheelbase chassis. A few alterations have been made in the power plant, including an increase in the bore of the cylinders from $2\frac{3}{4}$ to $2\frac{7}{8}$ inches, the use of larger valves, intake manifold and carbureter.

Lawrence Wants Austin Company

LAWRENCE, MASS., July 24—The Industrial Committee of the Lawrence, Mass., Chamber of Commerce has made an offer to the Austin Automobile Co., Grand Rapids, Mich., to move east.

That Detroit Speedway Is Coming Pretty Slow

**Will Be Impossible to Hold Meet as
Advertised September 6—Sanction
for Event Not Granted—Con-
struction Away Behind**

DETROIT, July 26—The Detroit Motor Speedway, which has for several months been in the public eye because of its broadly advertised plans to build a speedway and for which it has been selling admission tickets for a Labor Day meet, September 6, has made little progress to date and it is almost impossible to have a meet on that date. The track has been advertised as a 2½-mile cement oval, 90 feet wide. None of the cement has been laid. The erection of grandstands has not yet been started, although it has been stated in publicity that work had been started on the stands to seat 100,000 people. Widespread publicity has been sent out to the effect that the track had received sanction for a Labor Day meet; the American Automobile Association has not granted such sanction.

Up to the present the speedway organization has been expending large efforts in selling stock, and has disposed of \$103,330 worth of stock at \$10 per share to over 300 small investors in Detroit, this being exclusive of stock sold to officials of the organization. Holdings run from two shares to 200. Over \$72,000 has been secured in cash by this stock sale and the remainder taken in notes. These figures are based upon a report from the Michigan Sureties Commission and refer to the original stock issue of \$500,000. After the balance of this issue was turned over to the contractor, the stock was increased to \$800,000, so that there would be some to sell on the same basis as before, but it is understood little of this has found a market.

When asked concerning the situation, S. D. Maddox, general manager and vice-president of the speedway organization, said that any reports circulated have been just publicity. Detroiters are unable to understand the speedway advertising and publicity as there were only 36 working days in which the track could be completed.

Examinations of the speedway property showed that the entire gradings of the turns had not been completed and that there were not 500 men at work, as stated. Recently John B. Whalen, president of the Detroit Motor Speedway, when interviewed by the Motor World representative, declared that he had every reason to believe the track would be ready for a Labor Day meet, but concrete experts state that it would be a physical impossibility to have a cement track ready by that time or within weeks afterward.

A main difficulty with this speedway matter has been the lack of capital. When the present organization took over the work of promoting it it was expected that Detroit people would respond readily, but it was not proven easy to sell stock and the work of grading the track proceeded slowly. Some time ago the contractor agreed to take the balance of stock remaining unsold in lieu of cash for his work, thinking that he could dispose of the stock and thus get sufficient funds to complete the work. Things have proven otherwise and today the contractor has the stock on his hands, being credited with 33,682½ shares, worth at par \$336,825.

President Whalen declares that in the event of no race, money collected on the sale of tickets will be refunded.

Reo ¾-ton Truck Added

DETROIT, July 27—The Reo Motor Truck Co. is bringing out a ¾-ton truck styled Model F, which sells at \$1,075, completely equipped. The chassis only, less express body, driver's seat, canopy top and windshield, but otherwise completely equipped, lists at \$1,000. The truck, which is specially made for grocers, butchers, bakers, and department stores, has a wheelbase of 120 inches. The inside length of the standard express body is 96 inches and the width 44 inches.

A four cylinder 4½ x 4½ motor cast in pairs provides power. The carburetor is a Johnson, ignition is provided by a Remy generator. The starting and lighting system is also Remy. The clutch is a dry disk type; gearset is of the selective type. Hyatt roller bearings are used throughout. The axle is full-floating and Timken bearings are used also on the front axle. The artillery wheels have 34 x 4½ pneumatic tires, plain in front and knobby tread on rear. Springs are semi-elliptic.

Gotham's Row Has New Style Crook! Look Out!

**He Is "Within the Law" and That's
About All—He Orders, Cancels,
Demands Delivery and Then
Sues Dealer**

NEW YORK, July 26—The latest "man to watch out for" is, when he appears, an innocent-looking person and a live-looking prospect. He pays a deposit on some particular car in the salesroom and says he will take it the next day at, say, 1 o'clock. Before that hour there is a cancellation by telephone or else the buyer doesn't show up.

Meanwhile, another man comes in and buys the car in question. Later the first man shows up and demands his car. When it isn't forthcoming he threatens to sue and do all sorts of things.

Samuel S. Toback, of the A. Elliott Ranney Co., King dealer, was "wise," however, and, following the telephonic cancellation, hung onto the car. The prospect entered later.

"Sold," said Toback.

The prospect made an awful fuss. Then Toback let him down hard. He took him out onto the floor and showed him the very car he was making a fuss about, which was "something else again."

The Mercer agency is being sued because of a similar deal. The prospect paid \$75 on a used Marmon and said he would take it at 1 o'clock the next day. He didn't show up. Manager Whiting sold the car. At 5 o'clock Mr. Prospect returned and demanded the car. By that evening Whiting was able to get it back and tendered it to Mr. Prospect, who declined then to take it. He said he had bought another Marmon.

He has sued. He claims he was obliged to pay \$450 more than he wished because the Mercer Marmon was sold.

Jackson Distributors Took to the Woods for Their Annual Sales Meeting



CAMP NEWTON



THE CARAVAN

They drove from the factory in Jackson, Mich., in the new fours and eights and traveled more than 1,000 miles over all kinds of road. They finally reached Camp Newton, a hunting club, 68 miles from Manistique. There plans for the coming year were discussed and, at times, all business was forgotten in favor of the excellent fishing.

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

John F. Toole has become affiliated with the Willys-Knight division of the Willys-Overland Co., Toledo. He will cover the South.

A. W. Barber is the newest recruit to the Willys-Knight division of the Willys-Overland Co., Toledo. His territory is located in the East with headquarters in New York.

Charles B. Chambers has been made district sales manager for the Knight Tire & Rubber Co., Canton, O. His headquarters will be in Pittsburgh.

Joseph T. Leimert has been appointed manager of the Buffalo branch of the Packard Motor Car Co. of New York.

C. W. Long has been appointed division sales manager in charge of the Chicago district for the Madison Motors Co., Jackson. Formerly he was connected with the Waverley Co., Indianapolis.

C. E. Henderson, formerly connected with the Nyberg Automobile Co., has been made special district representative for central Indiana by the Madison Motors Co., Jackson. His headquarters will be in Anderson.

C. F. Rouze has been made sales manager for the Knox Motor Associates, Springfield, Mass. He succeeds H. F. Blanchard, resigned.

E. E. Butler is now manager of the Haynes Automobile Sales Co., Omaha.

H. L. Buller, who was with the publicity department of the Oakland Motor Car Co. for two years, is now connected with Apperson Bros. Automobile Co., Kokomo, in charge of advertising.

W. K. Cowan has been made manager of the sales organization for William R. Ruess, Mitchell and Stearns dealer, Los Angeles.

J. E. Garlent has been made factory manager of the King Motor Car Co., Detroit. Formerly he was general superintendent for the Hupp Motor Car Co.

H. A. Sperl, formerly with Earle C. Anthony, Inc., San Francisco, has been appointed retail sales manager of the Los Angeles Apperson branch.

Jas. F. Bourquin, general manager of the Paige-Detroit Motor Car Co., has resigned. He was formerly with the production department of the Chalmers Motor Co.

A. H. Knaus, formerly district manager for the Chalmers car in southern



H. A. JENKS
Locomobile—Washington

District Representatives

XVII

This is No. 17 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

H. A. Jenks, Resident Manager for the Locomobile Co. of America in Washington, D. C., entered the business in Philadelphia as cashier for the Ford company when the 1903 models were brought out. In 1907 he took charge of the specification department of the Packard Philadelphia branch and went then to the Stoddard-Dayton company under Wm. P. Berrien. When Berrien resigned, Jenks was left in charge. He left this company to go with Locomobile in Philadelphia and subsequently was appointed to the position which he now holds.

California, has been made sales manager of the Braley Auto Co., Franklin distributor in Portland, Ore.

Harry D. Austin has been made sales manager for the Seattle Metz factory branch.

Geo. H. Gaston, formerly sales manager for the Munger Automobile Co., Dallas, Tex., has been made district representative for the Cadillac Motor Car Co. His headquarters are in Dallas.

K. A. Ridenor, who was for several years in charge of the Louisville office of the Waverley Co., has resigned to become assistant to Roy Potts, vice-president of the Madison Motors Co., Anderson, Ind. George Cheschire, southern representative of the Waverley company, is temporarily in charge of the Louisville office of the Indianapolis concern.

John L. Bovis, of the Nebraska Buick Auto Co., Lincoln, Neb., has been appointed district sales manager with supervision over the Iowa territory controlled by the company.

E. W. Nicholson has been appointed assistant sales manager of the Regal Motor Car Co. During the last two years he was with the Chalmers Motor Co. in charge of district sales work.

Wallace C. Hood, sales manager of the defunct Briggs-Detroit Co., has been appointed to a similar position in the new Detroit Motor Car Co. Previous to his Briggs-Detroit connection he was sales manager of the Standard Motor Truck Co., the Everett Motor Car Co. and also the Chalmers Motor Co.

S. W. Kidd has been appointed district sales manager by the Paige Motor Car Co., with headquarters in St. Louis. He was formerly connected with the Detroit Kansas City Co.

What War Means to Truck Makers

WASHINGTON, D. C., July 24—As compared with May, 1914, the exports

of motor trucks in May, 1915, gained 2,350 per cent in number. The figures jumped from 99 trucks to 2,426. The war, of course, did it. The value rose from \$127,024 to \$6,583,912.

During the eleven months ending with May the export was 11,006 trucks, valued at \$30,561,880, as compared with 694, valued at \$1,061,354 during the eleven months ending with May, 1914. The United Kingdom was the heaviest purchaser, and all other parts of Europe bought except Germany, which took none.

Pleasure car shipments in May were 4,821 cars, valued at \$3,971,483, as against 3,157, valued at \$2,857,601 in the preceding May. Prior to the war car exports were decreasing rather than increasing. Tires and parts are also on the gain.

Owen Now Saxon Vice-President

DETROIT, July 23—General Sales Manager Percy Owen of the Chalmers Motor Co. has resigned to become vice-president of the Saxon Motor Co., where he will have charge of sales.

Eighteen-year Lawsuit Ended

NEW YORK, July 27—For infringement of the Grant patent on an imbedded-wire solid tire, the Diamond Rubber Co. of New York must pay the Kelly-Springfield Tire Co. \$212,376.29. The Federal court has just confirmed the accounting. This marks the end of 18 years of litigation, since the beginning of which both parties have changed. When the suit was brought Kelly-Springfield was the Consolidated Rubber Tire Co. and the defendant is now a Goodrich property. The patent, No. 554,765, expired February 18, 1913.

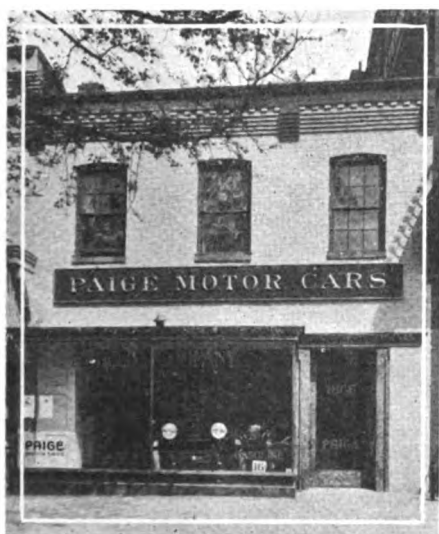
The accounting is made up as follows: Damages, \$130,391.75; extra award by the court, \$50,000; interest, \$28,709.60; costs, \$3,274.94. Other suits in the accounting stage are against Goodrich and Republic in Chicago, and against the Pennsylvania Rubber Co., in Pittsburgh.

Oldest Dealers

Men who have handled one car
for the longest period of time.
Others will appear in this series.



ERNEST SELBY
Paige
Washington, D. C.



His place of business

The oldest dealer of the Paige-Detroit Motor Car Co. is the Selby Co., 1805 14th street northwest, Washington, D. C., of which Ernest Selby is the principal. He took the Paige agency in 1909, when the car was first placed on the market, and has handled it continuously ever since.

After Selby graduated from the Washington public schools he took up the watch making trade and had under his supervision all the clocks in the public buildings in the national capital. In 1906 he was made manager of the Lockwood Mfg. Co., which was at that time the Stanley Steamer dealer in Washington. He resigned this position in 1909 to enter business for himself as the Paige representative.

More Dividends to Creditors

DETROIT, July 22—Ten, four and two per cent in dividends, respectively,

will be paid shortly to the creditors of the Briggs-Detroit Co., the American Voiturette Co., and the Michigan Buggy Co., by the Detroit Trust Co., trustee. In dollars it means about \$40,000 for the creditors of the Briggs-Detroit Co., about \$13,000 to those of the American Voiturette Co. and about \$50,000 to those of the Michigan Buggy Co.

Hercules Plant to be Sold August 14

LOUISVILLE, KY., July 23—In accordance with a judgment granted against the company at the last court term, the real estate, buildings and equipment of the defunct Hercules Motor Car Co. will be sold at auction on August 14. The total of judgments against the company is \$110,325. It is rumored that an effort is being made to interest capitalists for the purchase of the plant and continue its operation on an entirely new basis.

Discuss Truck Fenders

CHICAGO, July 26—Chicago's motor truck fender situation bobbed up again today, when reports of the big truck users, truck manufacturers and local motor trade association were presented to Chief of Police Healy for consideration.

Perhaps the pro-fender contingent was hit hardest by the words of Russel Huff, consulting engineer for the Packard company. Huff stated, in a letter to the Chicago Automobile Trade Association, which was read at the meeting, that front

fenders do not protect, do not save lives and that of all the accidents due to the wheels passing over a body 90 per cent are caused by the rear wheels, and not the front, striking the person. Also that trucks are responsible for less than 50 per cent of the motor vehicle accidents and 10 per cent of these are caused by front wheel contact. Also that of this 10 per cent the majority of accidents is caused by negligence on the part of the pedestrian.

New Velie Distribution Plan

MOLINE, ILL., July 24—The Velie Motor Vehicle Co., which heretofore has distributed its products largely through the implement dealers which handle products of the John Deere Plow Co., with which the Velie company is closely allied, has altered its policy and henceforth will contract direct with responsible motor car dealers and distributors, eliminating the Deere Plow branches. This change presages no segregation from the John Deere Plow Co. interests.

Boston Hupmobile Change

BOSTON, July 26—The Wentworth-Fosdick Co. will surrender the Hupmobile distribution August 1, and the business will be taken over by the Atlantic Auto Co., Hupmobile distributor in Lynn, Mass. The latter company is backed by Byron E. Grover, a manufacturer of boxes in Lynn. It is probable a new Boston company will be formed.

Dealer Factory Visitors of the Week

CHALMERS MOTOR CO.

H. W. Skinner, W. H. Skinner M. C. Co., Utica
C. T. Hatter, Hoppe, Hatter M. Co., Milwaukee
A. C. Hoppe, Hoppe, Hatter M. Co., Milwaukee
Mr. Cornelius, Cornelius, Browning Co., Toledo
PACKARD MOTOR CAR CO.

C. W. Johnston, Standard A. Garage,
Uniontown, Pa.
C. P. Joy, Jones Bros. M. C. Co., St. Paul
Cuyler Lee, San Francisco
M. J. Budlong, Packard M. C. Co. of New York
James S. Frazier, Imperial M. C. Co., Inc.,
Nashville

G. D. Wright, Wright Co., Fort Worth
P. K. Russell, Packard M. C. Co. of Pittsburgh
Hartley Howard, Packard M. C. Co. of Pittsburgh

MAXWELL MOTOR CO.

G. D. Wright, Fort Worth
A. P. Mitchell, Fort Worth
Thomas Brothers, Greencastle, Ind.
Geo. W. Culler, Springfield, Mo.
Cuyler Lee, San Francisco, Cal.
Claude Stanley, Newcastle, Ind.
John Ott, Transverse City, Mich.
Frank Smith, Alma, Mich.
Jas. Lephard, Greenville, O.
H. H. Hascall, Cleveland
H. G. Roosevelt, Fort Wayne
A. V. Jordan, Gardiner, Mass.
J. A. Clark, Galesburg
T. M. Cox, Galesburg
H. C. Fairchild, Newark, N. J.

STUDEBAKER CORP.

Fred W. Arkenberg, Arkenberg Gar., Milan, Ind.
Louis Schingle, Big Four A. Co., Huntington, Ind.
Erich Eckart, Jeanette A. & M. Co., Jeanette, Pa.
L. H. Leavens, Fox Warren, Man.
H. J. Mitchell, Watkins, N. Y.
Clarence Croft, Osceola, Pa.
Luther Brown, Bloomington, Ind.
Fred Everback, Bevins-Everback A. Co.,
Seymour, Ind.
L. J. Sharpe, Stanley Edwards Co.,
Newcastle, Ind.
J. O. Carpenter, Ridgeville, Ind.
W. H. Kilgore, Mansfield, Pa.

Ralph Hyde, Wellsboro, Pa.
Bernie Plummer, Carthage, N. Y.
John H. Hettler, Wabash, Ind.
Hart L. Weaver, Jr., San Francisco
A. R. Englander, Davis M. C. Co., Cleveland
J. V. Kenney, Davis M. C. Co., Cleveland
J. V. Rowan, Brown-Rowan-Buck Co.,
Indianapolis

John B. Sanford, Bellevue, O.
F. E. Merrill, R. D. March, Merrill & March,
Shelburne Falls, Mass.

R. C. Julien, Delphi, Ind.
A. E. Klinganpell, Flora, Ind.
H. M. Cochran, Jr., Coropolis, Pa.
L. A. Tilley, Pittsburgh
W. W. Embrey, Cynthiana, Ky.
A. M. Rogers, Wood Motor Co., Akron, O.
W. B. Aldefer, Sharon Center, O.
H. H. Hawisher, Lima, O.
Frank Joyce, Newcastle, Ind.
Frank E. Wheeler, Wheeler & Ford,
Rockville, Ind.

Frank S. Wood, Wheeler & Ford, Rockville, Ind.
John Kirkwood, Wichita

PAIGE-DETROIT MOTOR CAR CO.

Geo. A. Dunlop, Cadillac, Mich.
W. H. Karstens, Zeeland, Mich.
C. J. Clapp, Toledo
Chauncey J. Williams, Remsen, N. Y.
D. E. Schall, Will Alton & Sons, Lancaster, O.
T. H. Artress, Lorain, O.
S. E. Dilbone, Sidney, O.
Ed. W. Junclass, Paige-De. Sales Co., Cincinnati
R. W. Here, Motor Sales Co., Louisville
James A. Carr, Charleston
Thomas M. Orrell, Kalamazoo
H. A. Porter, Grand Rapids
John Higgins, Vassar, Mich.
James Lowrey, Tecumseh, Mich.
H. R. Barrett, Hillsboro, O.
O. F. Brown, Silver Lake, Ind.
W. H. Whitelock, Buffalo, S. D.
G. H. Bergstrom, De Pere, Wis.
Geo. H. Bird, Bird-Sykes Co., Chicago
F. D. Shaver, Bay City, Mich.
J. L. Trapp, Whitehouse, O.
Howard E. Lee, Hicksville, O.

SPECIFICATIONS OF LEADING AMERICAN CARS BROUGHT UP TO DATE

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
DODGE												
...	4-3 $\frac{3}{4}$ x4 $\frac{1}{2}$	24.2	Eismn	Own	N E	Cone	3	110	32x3 $\frac{3}{4}$	....	785	....
DORRIS												
..	6-4 x5	38.4	Waths	Stmbg	Waths	Disk	3	128	36x4 $\frac{1}{2}$	....	....	2,475
DORT												
...	4-3 x4	14.4	Conn	.....	Apico	Cone	3	92	30x3	540	....	....
...	4-3 $\frac{1}{2}$ x5	16.9	Conn	.....	Apico	Cone	3	105	30x3 $\frac{3}{4}$	....	650	....
EMPIRE												
33	4-3 $\frac{3}{4}$ x4 $\frac{1}{2}$	24	Remy	Shblr	Remy	Disk	3	112	32x3 $\frac{3}{4}$	....	975	....
ENGEL												
6-50	6-3 $\frac{3}{4}$ x5	29.4	A. Kent	Rafld	G & D	Diak	3	125	34x4	1,495	....	1,495
FIAT												
J	4-130x170	42.2	Bosch	Own	Waths	Diak	4	128	36x4 $\frac{1}{2}$	4,650	4,650	4,650
6-50	6-110x150	44.0	Bosch	Own	Waths	Diak	4	135	37x5	5,150	5,150	5,150
54	4-110x150	29.5	Bosch	Own	Waths	Diak	4	124	36x4 $\frac{1}{2}$	4,150	4,150	4,150
FORD												
T	4-3 $\frac{3}{4}$ x4	22.5	Ford	Holley	.....	Disk	3	100	30x3	440	490	....
FRANKLIN												
6-30	6-3 $\frac{3}{4}$ x4	31.5	Eismn	Own	Dyneto	Disk	3	120	34x4 $\frac{1}{2}$	1,950	1,950	....
F. R. P.												
45-B	4-4 3-5x6 $\frac{1}{2}$	33.8	Bosch	Stwrt	Bosch	Cone	4	110	36x4	All bodies to order		
GLIDE												
30	4-3 $\frac{3}{4}$ x5	19.6	Waths	Shblr	Waths	Diak	3	114	32x4	1,195	1,195	....
GRANT												
M	4-2 $\frac{3}{4}$ x4	13.3	Swiss	Mayer	A-C	Cone	2	90	28x3	425	....	....
T	6-2 $\frac{3}{4}$ x4 $\frac{1}{2}$	20.0	A. Kent	Mayer	A-C	Cone	3	106	30x3 $\frac{3}{4}$	....	795	....
GREAT WESTERN												
1916	6-3 x5	21.6	Remy	.....	W. Lard	Diak	3	...	33x4	....	1,185	....
HALLADAY												
6-40	6-	....	Waths	Stmbg	Waths	Disk	3	...	34x4	....	1,385	....
HAYNES												
30	6-3 $\frac{3}{4}$ x5	29.4	Remy	Rafld	L-N	Disk	3	121	34x4	1,485	1,485	....
31	6-4 $\frac{1}{2}$ x5 $\frac{1}{2}$	43.5	Simms	Rafld	L-N	Disk	3	139	36x4 $\frac{1}{2}$	....	2,250	....
33	6-3 $\frac{3}{4}$ x5	29.4	Remy	Stmbg	L-N	Band	3	127	35x4 $\frac{1}{2}$	....	....	1,550
32	4-4 $\frac{1}{2}$ x5 $\frac{1}{2}$	29.0	Simms	Stmbg	L-N	Band	3	118	34x4	....	1,090	....
HIERFT-BROOKS												
4-25	4-4 $\frac{1}{2}$ x5	32.4	Spldf	Shblr	Apico	Cone	3	118	34x4	....	835	....
6-50	6-4 x4 $\frac{1}{2}$	38.4	Spldf	Shblr	Apico	Cone	3	124	34x4	....	1,095	....
HOLLIER												
..	8-3 x4 $\frac{1}{2}$	28.8	A. Kent	Stmbg	Apple	Cone	3	112	33x3 $\frac{3}{4}$	....	985	....
HUDSON												
6-40	6-3 $\frac{3}{4}$ x5	29.4	Deleo	Zenith	Deleo	Disk	3	123 $\frac{1}{2}$	34x4	1,550	....	1,550
6-54	6-4 $\frac{1}{2}$ x5 $\frac{1}{2}$	40.8	Deleo	Zenith	Deleo	Disk	4	135	36x4 $\frac{1}{2}$	....	....	2,350
HUPMOBILE												
...	4-3 $\frac{3}{4}$ x5 $\frac{1}{2}$	22.5	.....	Zenith	Bljur	Disk	3	119 1.4	34x4	1,085	1,085	1,225
IMPERIAL												
...	4-3 $\frac{3}{4}$ x5	22.5	Waths	Stmbg	Waths	Disk	3	115	33x4	....	995	....
56	6-3 $\frac{3}{4}$ x5 $\frac{1}{2}$	33.7	Spldf	Stmbg	N E	Disk	3	130	36x4 $\frac{1}{2}$	....	....	2,200
66	6-3 x5	21.6	.....	.....	.....	Disk	3	...	33x4	....	1,385	....
INTER-STATE												
T	4-3 $\frac{3}{4}$ x5	19.6	Remy	Shblr	Remy	Cone	3	110	33x4	....	1,000	....
JACKSON												
44	4-4 $\frac{1}{2}$ x4 $\frac{1}{2}$	27.25	A-Lite	Shblr	A-Lite	Cone	3	117	34x4	....	1,250	....
46	4-4 $\frac{1}{2}$ x5 $\frac{1}{2}$	32.4	Remy	Shblr	A-Lite	Cone	3	117	34x4	1,375	1,375	....
48-6	6-3 $\frac{3}{4}$ x5	29.4	Deleo	Stmbg	Deleo	Cone	3	125	34x4 $\frac{1}{2}$	....	1,650	....
JEFFERY												
Four	4-3 $\frac{3}{4}$ x5 $\frac{1}{2}$	22.5	Bosch	Stmbg	Bljur	Plate	3	116	34x4	....	1,000	1,035
Six	6-3 $\frac{3}{4}$ x5 $\frac{1}{2}$	33.7	Bosch	Rafld	U S L	Disk	4	133 $\frac{1}{2}$	34x4 $\frac{1}{2}$	....	....	2,400
(Infld)	6-3 x5	21.6	Bosch	Stmbg	Bljur	Disk	4	122	34x4	1,350	1,350	....
KEARNS												
L	4-2 $\frac{3}{4}$ x4	13.3	Bring	Zenith	A-C	Cone	3	109	28x3	450	....	....
KING												
...	4-3 15-16x5	24.7	A. Kent	Stmbg	W. Lard	Disk	3	113	33x4	1,075	1,075	....
...	8-2 $\frac{3}{4}$ x5	24.1	A. Kent	Zenith	W. Lard	Disk	3	113	33x4	....	1,350	....
KISSEL												
4-36	4-4 $\frac{1}{2}$ x5 $\frac{1}{2}$	29.0	Waths	Stmbg	Own	Cone	3	121	34x4	1,450	1,450	1,550
6-42	6-3 $\frac{3}{4}$ x5 $\frac{1}{2}$	31.5	Waths	Stmbg	Kissel	Cone	3	129	34x4	1,650	1,650	1,850
6-48	6-4 x5 $\frac{1}{2}$	38.4	Mea	Rafld	Kissel	Cone	4	132 $\frac{1}{2}$	36x4 $\frac{1}{2}$	2,350	2,350	2,550
6-60	6-4 $\frac{1}{2}$ x5 $\frac{1}{2}$	49.6	Eismn	Rafld	Kissel	Cone	4	142	37x5	3,150	3,150	3,150
KLINE												
6-42	6-3 $\frac{3}{4}$ x5 $\frac{1}{2}$	29.4	Waths	Rafld	Waths	Disk	3	123	34x4	1,750	1,750	....
6-42-A	6-3 $\frac{3}{4}$ x5 $\frac{1}{2}$	29.4	Waths	Rafld	Waths	Disk	3	127	35x4 $\frac{1}{2}$	....	....	1,800

NOTE—The figures given in columns underneath 3-, 5- and 7-passenger, represent the list catalog prices of the models. Where a tire size is given, as for instance "37x5½", it means that the rear tires are 37x5½ and the front are of smaller dimension.

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
KRITZ	4-3½x4	22.5	Disco	Johnson	Disco	Disk	3 108	32x3½	850	800	.....	.....
LAMBERT	4-3½x4	22.5	Briggs	Shblr	Briggs	Frm Trs	112	32x3½	.....	1,200	.....	.....
68-C	4-4½x5½	27.2	Briggs	Shblr	Briggs	Frm Trs	117	34x3½	1,565	1,565	.....	.....
LEWIS	6-3½x6	25.4	Remy	Stmbg	Remy	Disk	3 135	34x4	1,390	.....	1,390	.....
LEXINGTON	4-3½x5½	24.2	Waltha	Shblr	Waltha	Disk	3 115	34x4	1,375	1,375	.....	.....
6-L	6-3½x5	29.4	Waltha	Shblr	Waltha	Disk	3 128	34x4	1,875	1,875	.....	.....
6-M	6-4½x5	40.8	A. Kent	Stmbg	Jesco	Cone	3 130	36x4½	2,575	2,575	2,675	.....
LOCOMOBILE	6-4½x5½	48.6	Bosch	Own	Waltha	Disk	4 140	37x5	5,100	.....	5,100	.....
M-5	6-4½x5	43.5	Bosch	Own	Waltha	Disk	4 132	37x5	4,400	4,400	.....	.....
H. A. L.	12-3 ½x4½	43.2	.....	.....	.....	Disk	3 120	34x4	1,750	1,750	.....	.....
LIVERNE	6-4 x5	38.4	Bosch	Shblr	Jesco	Disk	3 128	36x4½	.....	.....	2,500	.....
LYONS-KNIGHT	4-4½x5½	32.4	Simms	Stmbg	N E	Disk	3 130	37x5	.....	2,900	2,980	.....
MADISON	6-3 x5	21.6	Remy	.....	Remy	Disk	3 120	34x4	1,375	1,375	.....	.....
MARION	8-3½x4½	31.2	Bosch	.....	G & D	Disk	3 115	34x4	1,500	1,500	.....	.....
6-3 x5	21.6	Waltha	Stmbg	Waltha	Disk	3 120	33x4	.....	1,250	.....	.....	.....
6-4½x5	22.5	Bosch	Rafid	G & D	Disk	3 115	34x4	.....	1,250	.....	.....	.....
MARMON	6-4½x5½	43.5	Bosch	Stmbg	Bosch	Cone	3 132½	36x4½	3,350	3,250	3,350	.....
MAXWELL	4-3½x4½	21.0	Simms	Kngrtn	Simms	Cone	3 103	30x3½	725	750	.....	.....
McFARLAN	6-4 x6	38.4	Waltha	Stmbg	Waltha	Cone	3 132	36x4½	2,590	2,590	2,590	.....
X	6-4½x6	48.6	Waltha	Stmbg	Waltha	Cone	3 132	36x4½	2,900	2,900	2,900	.....
MCINTYRE	4-3½x5½	19.6	Bosch	Stmbg	G & D	Cone	3 106	32x3½	.....	850	.....	.....
6-40	6-3½x4½	29.4	Briggs	Stmbg	Briggs	Disk	3 120	35x4	.....	1,275	.....	.....
MERCER	4-3½x6½	22.5	Bosch	Zenith	U S L	Disk	4 130	34x4½	2,750	.....	.....	.....
Spdtr	4-3½x6½	22.5	Bosch	Zenith	U S L	Disk	4 130	34x4½	.....	3,000	.....	.....
METEOR	4-4 x5	25.6	A. Kent	Stmbg	Spdfr	Disk	3 114	34x4	.....	1,075	.....	.....
45	6-3½x5	33.7	A. Kent	Stmbg	Spdfr	Disk	3 126	35x4	.....	1,395	.....	.....
METZ	4-3½x4	22.5	Bosch	Own	.....	Frm Trs	96	30x3	495	.....	.....	.....
22	4-3½x4	24.2	Bosch	A W T	G & D	Frm Trs	105	32x3½	.....	600	.....	.....
MITCHELL	8-3 x5½	28.8	.....	Rafid	Waltha	Cone	3 116	34x4	1,450	1,450	.....	.....
8 of 16	6-3½x5	29.4	.....	Rafid	.....	Cone	3 125	34x4	.....	1,250	.....	.....
MOLINE-KNIGHT	4-4 x6	25.6	Bosch	Shblr	Wagner	Cone	4 128	36x4½	2,500	2,500	2,500	.....
40	4-3½x5	19.6	Conn	.....	.....	Cone	3 118	34x4	.....	1,475	.....	.....
MONARCH	8-3½x5	29.4	A. Kent	Zenith	W. Lnd	Cone	3 125	33x4	.....	1,250	1,275	.....
8-3 x5	28.8	.....	.....	W. Lnd	Cone	3 125	33x4	1,500	.....	.....	.....	.....
MONROE	4-3 x3½	14.4	Conn	Zenith	A-Lite	Cone	3 96	30x3	400	.....	.....	.....
MOON	6-40	6-3½x5	29.4	Delco	Rafid	Delco	Disk	3 125	34x4	.....	1,475	.....
6-30	6-3½x4½	25.4	Delco	Rafid	Delco	Disk	3 118	34x4	.....	1,195	.....	.....
MORSE	4-4½x5	34.2	Elsmn	Stmbg	G & D	Disk	4 127	36x4½	3,600	3,600	3,600	.....
NATIONAL	6-3½x5½	29.4	Mgnto	.....	Waltha	.....	3 128	34x4½	.....	1,690	.....	.....
12-2½x4½	36.3	.....	.....	Waltha	.....	3 128	36x4½	.....	1,990	.....	.....	.....
AB	6-3½x5½	33.7	Elsmn	Rafid	Waltha	Cone	3 134	36x4½	2,375	2,375	.....	.....
NORWALK	6-3½x5½	29.4	A. Kent	Rafid	G & D	Disk	4 131	37x4	1,875	.....	.....	.....
OAKLAND	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3 112	33x4	1,150	1,050	.....	.....
37	6-3½x5	29.4	Delco	Johnson	Delco	Cone	3 123½	35x4½	.....	1,685	.....	.....
Spdtr	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3 112	33x4	1,050	.....	.....	.....
OGREN	6-3½x5½	33.7	Bosch	Rafid	B-Rahm	.....	3	.....	.....	.....	2,500	.....
OLDMOBILE	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3 112	33x4	1,285	1,285	.....	.....
43	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3 120	33x4	.....	1,095	.....	.....
OVERLAND	4-4½x4½	27.2	Mgnto	.....	A-Lite	Cone	3 106	33x4	725	750	.....	.....
OWEN	6-3½x5½	33.7	Owen	Master	O M	O M	136	35x5	3,750	.....	3,750	.....
PACKARD	12-3 x5	43.2	Timer	Own	Bljur	Plate	3 125	36x4½	.....	.....	.....	.....
PAIGE	6-3½x5½	29.4	Bosch	Rafid	G & D	Disk	3 124	34x4	1,385	.....	1,395	.....
6-36	6-3 x5	21.6	.....	.....	.....	.....	.....	.....	.....	1,095	.....	.....
PARTIN-PALMER	4-3½x4	15.6	A. Kent	Muir	G & D	Disk	3 96	28x3	497	.....	.....	.....
38	4-3½x5½	22.5	A. Kent	Stmbg	G & D	Done	3 115	33x4	1,075	.....	.....	.....
PATERSON	4-32	4-3½x5	19.6	Delco	Stmbg	Delco	Cone	3 112	33x4	.....	1,095	.....
6-48	6-3½x5	29.4	Delco	Stmbg	Delco	Cone	3 124	34x4	.....	1,495	.....	.....

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
PATHFINDER												
...	6-3½x5	29.4	Waltha	Shblr	Waltha	Disk	3 121	35x4½	1,685	1,685	.....	.....
...	12-3 x4	43.2	Waltha	Shblr	Waltha	Disk	3 122	35x4½	1,975	1,975	1,975	.....
PIERLESS												
54	4-3½x5	22.5	A. Kent	Stmbg	G & D	Disk	3 113	34x4	2,900	2,000	.....	.....
55	6-3½x5	29.4	A. Kent	Stmbg	G & D	Disk	3 121	34x4	2,250	2,250	.....	.....
48-6	6-4½x6	48.6	Bosch	Own	G & D	Band	4 137	37x5	4,900	.....	5,000	.....
PIERCE-ARROW												
C-3	6-4 x5½	38.4	Bosch	Own	Waltha	Cone	4 134	36x4½	4,300	4,700	.....	.....
D-3	6-4½x5½	48.6	Bosch	Own	Waltha	Cone	4 142	37x5	4,900	4,900	5,000	.....
A-3	6-5 x7	60.0	Bosch	Own	Waltha	Cone	4 147½	38x5½	5,900	5,900	6,000	.....
PILOT												
55	6-3½x5½	29.4	Waltha	Shblr	Waltha	Cone	3 126	34x4	1,885	1,885	1,985	.....
75	6-4½x6	48.6	Waltha	Carter	Waltha	Cone	3 132	37x4½	2,885	2,885	2,885	.....
PREMIER												
6-50	6-4 x5½	38.4	Elsmn	Rafid	Remy	Disk	3 133	36x4½	1,985	1,985	1,985	.....
PRATT												
6-50	6-3½x5½	33.7	A. Kent	Rafid	G & D	Disk	4 132	37x4½	2,150	2,150	2,250	.....
PULLMAN												
Jr	4-3½x4½	22.5	Spdfr	Stmbg	Spdfr	Disk	3 110	30x3½	740	740	.....	.....
6-48	6-3½x5½	33.7	Simms	Stmbg	Waltha	Disk	4 134	36x4½	2,500	2,500	2,550	.....
RAYFIELD												
20	4-2½x4½	12.0	A. Kent	Own	.....	Disk	3 96	28x3	.....	395	.....	.....
R-C-H												
K	4-3½x5	16.9	Bosch	B-D	W. Lnd	Cone	3 110	32x3½	.....	775	.....	.....
REGAL												
D	4-3½x5	22.5	A. Kent	Stwrt	Bosch	Cone	3 112	33x4	1,085	1,085	.....	.....
...	8-2½x4½	26.6	A. Kent	Stwrt	B-Rahm	.....	112	33x4	1,250	1,250	.....	.....
...	4-3½x3½	18.2	A. Kent	.....	Spdfr	.....	3 106	30x3½	650	650	.....	.....
REMINGTON												
...	4-3½x4	15.6	A. Kent	.....	W. Lnd	Cone	3 104	30x3½	695	695	.....	.....
Ghnd	8-3½x4½	31.2	A. Kent	Zenith	G & D	Disk	3 116	35x4½	1,495	.....	.....	.....
REPUBLIC												
E	6-4½x5	43.5	Delco	Rafid	Delco	Cone	4 133	36x4½	.....	2,960	3,000	.....
REO												
M	6-3-9-16x5½	30.4	Remy	Johnson	Remy	Disk	3 122	34x4	.....	1,385	.....	.....
ST	4-4½x4½	27.2	Natnl	Holley	Natnl	Disk	3 112	34x4	1,000	.....	.....	.....
R	4-4½x4½	27.2	Remy	Holley	Remy	Disk	3 115	34x4	.....	1,060	.....	.....
ROSS												
A	8-3 x4½	28.8	.....	.....	Own	Disk	3 115	34x4	.....	1,350	.....	.....
SAXON												
A	4-2½x4	11.2	A. Kent	Mayer	.....	Plate	3 96	28x3	395	.....	.....	.....
B2	6-2½x4½	20.0	A. Kent	Mayer	G & D	Disk	3 112	32x3½	.....	785	.....	.....
SCRIPPS-ROOTH												
C	4-2½x4	13.3	A. Kent	Zenith	Bljur	Disk	3 110	30x3½	775	.....	.....	.....
SPAULDING												
H	4-4½x5½	29.0	Simms	Rafid	Ents	Cone	3 130	36x4	.....	1,680	.....	.....
SIMPLEX												
38	4-4½x6½	38.2	Bosch	Nwcmh	Bosch	Disk	4 137	37x5	All bodies to order	.....	.....	.....
50	4-5½x6½	46.3	Bosch	Nwcmh	Bosch	Disk	4 137	37x5	All bodies to order	.....	.....	.....
SINGER												
Six	6-4 x5½	38.4	Elsmn	C R G	Waltha	Disk	4 135	36x4½	2,350	2,350	.....	.....
STANDARD												
8	8-3 x5	28.8	Waltha	.....	Waltha	Disk	3 121	35x4½	.....	1,735	.....	.....
6	6-4 x5½	38.4	Waltha	Zenith	Waltha	Disk	3 126	36x4½	.....	2,100	.....	.....
STANLEY												
...	Steam	.....	.....	.....	.....	.....	.....	136	34x4½	.....	1,975	.....
STEARNS												
L-4	4-3½x5½	22.5	Bosch	Shblr	Waltha	Cone	3 119	34x4	1,395	1,395	.....	.....
8-K-4	4-4½x5½	29.0	Bosch	Stmbg	G & D	Disk	3 127	36x4½	3,750	3,750	3,900	.....
8-K-6	6-4½x5½	43.5	Bosch	Stmbg	G & D	Disk	4 134	37x5	4,850	4,850	5,000	.....
STUDEBAKER												
4	4-3½x5	24.0	Remy	Shblr	Wagner	Cone	3 112	33x4	850	.....	885	.....
6	6-3½x5	36.2	Remy	Shblr	Wagner	Cone	3 123	34x4	1,000	.....	1,050	.....
STUTZ												
H.C.8	4-3½x5	22.5	Remy	Stmbg	Remy	Cone	3 108	32x4	1,475	.....	.....	.....
Br. Car	4-4½x5½	36.1	Rosch	Stmbg	Remy	Cone	3 120	34x4½	2,600	.....	.....	.....
Six	6-4 x5	38.4	Elsmn	Stmbg	Remy	Cone	3 120	34x4½	2,125	.....	.....	.....
T. Car	4-4½x5½	36.1	Rosch	Stmbg	Remy	Cone	3 130	34x4½	.....	2,275	.....	.....
T. Car	6-4 x5	38.4	Elsmn	Stmbg	Remy	Cone	3 130	34x4½	.....	2,400	.....	.....
TOURNAINE												
12	6-4 x5½	38.4	Simms	Zenith	Waltha	Disk	4 124	34x4½	3,150	3,150	3,250	.....
VELIE												
4-45	4-4½x5½	34.2	Bosch	Stmbg	G & D	Disk	4 121	37x4½	1,750	1,750	.....	.....
6-50	6-3½x5½	33.7	Bosch	Stmbg	G & D	Disk	4 129	37x4½	2,015	2,015	.....	.....
Blitwl	6-3½x5	29.4	A. Kent	Stmbg	G & D	Disk	4 124	34x4	1,595	1,595	.....	.....
VIXEN												
S.B	4-2½x4	12.0	A. Kent	Zephyr	.....	.....	.....	106	28x3	395	.....	.....
VULCAN												
...	4-3½x5½	19.6	Waltha	Stmbg	Waltha	Disk	3 120	32x3½	975	975	.....	.....
WESTCOTT												
O	4-3½x5	19.6	Delco	Shblr	Delco	Cone	3 113	32x4	1,185	1,185	.....	.....
U	6-3½x5	29.4	Delco	Rafid	Delco	Cone	3 125	34x4	.....	1,585	.....	.....
WHITE												
30	4-3½x5½	22.5	Bosch	Own	Own	Plate	4 115	32x4	2,650	2,700	.....	.....
45	4-4½x6½	29.0	Bosch	Own	Own	Plate	4 132½	36x4½	.....	.....	3,800	.....
60	6-4½x5½	43.5	Bosch	Own	Own	Plate	4 140½	37x5	All bodies to order	.....	.....	.....
WILLIS-KNIGHT												
84	4-4½x4½	27.25	Dixie	Titan	A-Lite	Done	4 114	34x4	1,095	1,095	.....	.....
WINTON												
21	6-4½x5½	48.6	Bosch	Rafid	Altror Elec	Disk	4 136	37x5	3,250	3,270	3,500	.....
21A	6-3½x5½	31.5	Bosch	Rafid	Bljur	Disk	4 128	36x4½	2,285	2,285	.....	.....
WOODS MOBILETTE												
3	4-2½x4	10.0	Mento	Maver	.....	Cone	3 104	28x2½	390	.....	.....	.....

Motor Car Dealers Recently Established

COMMERCIAL VEHICLES

MINNESOTA

Place	Car	Dealer
Minneapolis	Indiana	George Cromwell

MISSOURI

Joplin	Koehler	J. W. Gorsuch
Sedalia	Koehler	LeGrande Garage

NEBRASKA

Hastings	Koehler	Stephen Schuls
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PLEASURE CARS

CALIFORNIA

Anaheim	Reo	W. P. Quarton
Pasadena	Reo	Floyd Purdy
San Francisco	Chalmers	L. H. Rose-Chalmers Co.
Ventura	Reo	R. B. Seeley

CANADA

Gleichen, Alta.	King	John Borty
Granum, Alta.	King	W. P. Byer
Hig's River, Alta.	King	F. Pepper Garage
Langdon, Alta.	King	Roy Gowan
Okotoks, Alta.	King	Okotoks Garage
Red Deer, Alta.	King	Mechanical Garage
Stettler, Alta.	King	Bentley & Son
London, Ont.	King	W. J. Armstrong
Waterloo, Ont.	Oldsmobile	Hubert L. Dietrich

COLORADO

Denver	White	Perry A. Mead
Denver	Oakland	J. S. Morrison Auto Co.
Fort Collins	Oldsmobile	Casson & Hopper

CONNECTICUT

Hartford	Oldsmobile	Parker Oldsmobile Co.
New Haven	Oldsmobile	Parker Oldsmobile Co.
Stamford	Oldsmobile	Mechaley Auto Co.

DISTRICT OF COLUMBIA

Washington	Chalmers	Union Garage
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FLORIDA

Pensacola	Moon	Pensacola Auto Supply Co.
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ILLINOIS

Carlock	Moline-Knight	Donat Widmer
Chattanooga	Moon	Thrasher Automobile Co.
Chicago	Moon	E. D. Knowles
Clinton	Moon	L. DeBoise
Danville	Moon	Raymond D. Smith
Flanagan	Pullman	T. B. Bennett & Co.
Geneseo	Moon	E. G. Orr
Monmouth	King	Pen Mill Decorating Co.
Rock Island	King	John Dee Auto Sales Co.

INDIANA

Darlington	Hupmobile	Peterson & La Follette
Evansville	Hupmobile	Charles F. Helland
Muncie	Hupmobile	D. C. Williston
South Bend	Moline-Knight	Oscar Lippman

IOWA

Ames	King	Jacobson Automobile Co.
Canova	Overland	J. A. Wick
Coon Rapids	Oakland	Crow-Ribbal
Des Moines	Moline-Knight	Stewart & Schooler
Des Moines	Princess	Hawkeye Motor Sales Co.
Des Moines	Pullman	Pegau Auto Co.
Glidden	Oakland	E. O. Potter
Greenfield	King	Wilson Bros.
Hanrock	Oakland	Wiese & Nicolai
Jefferson	Moline-Knight	L. E. Jeffers
Maquoketa	Moline-Knight	F. R. Bozak
Marion	Moline-Knight	C. C. Carpenter
Menlo	King	Wilson Bros.
Monmouth	Moline-Knight	H. R. Miller
Neola	Oldsmobile	Neola Auto Co.
Perry	King	King Automobile Co.
Red Oak	Moon	Bernard Peterson
Sioux City	Hupmobile	W. L. Huffman Co.

KANSAS

Arkansas City	King	Hill-Howard Motor Co.
Eldorado	Overland	El Dorado Overland Co.
Harper	King	William Thompson
Hutchinson	Regal	Regal Motor Sales Co.
Hutchinson	King	C. A. Livingston Auto Co.
Lewis	Empire	J. H. Wolcott
Osawatomie	Allen	E. G. Cresse
Osborne	Reo	Gilbert & Sons
Sabetha	Oldsmobile	G. E. Flechtell
Topeka	Paige	Palace Auto Co.
Waldron	Moline-Knight	A. Grasser
Wichita	Pullman	Pullman Motor Co.
Winfield	Buick	Colliston Auto Co.

KENTUCKY

Louisville	Chandler	Callahan Motors Co.
Middlesboro	Hupmobile	Middlesboro Auto Co.

MARYLAND

Hagerstown	Regal	Young Motor Car Co.
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MASSACHUSETTS

Boston	MacFarlan	F. P. Anthony
Salem	Oldsmobile	Oldsmobile Co. of Salem
Springfield	Studebaker	Corson-Berry Co.
West Dennis	Oldsmobile	H. W. Nickerson
Worcester	Grant	Jernberg-Wheeler Co.

MICHIGAN

Battle Creek	King	E. E. Doty
Benton Harbor	Oakland	A. F. Messner

Place	Car	Dealer
Breedsville	King	Bert Lee
Charlotte	Oakland	Wilson-Oakland Co.
Coral	Dodge	Thomas Kain
Galesburg	Altor	Merl Binehart
Grand Rapids	Hupmobile	Geo. S. Thwing Co.
Grand Rapids	Auburn	Beld Auto Co.
Grant	King	J. Hanville
Homer	Chevrolet	Homer Garage & Mch. Wks.
Houghton	Hupmobile	Earl Opal
Ionia	Oakland	Miller & Ashe
Jackson	Regal	Hazen Abbey
Ladington	Oldsmobile	Harry V. Huston
Mount Clemens	Paige	Harris & Culver
New Baltimore	Ford	Vosson & Son
New Baltimore	Overland	Vosson & Son
Niles	Oakland	Stoll Bros.
Shepherd	Regal	D. A. Kennedy
South Haven	Oakland	Jake Neffenger
Standish	Maxwell	A. Hanes
Three Oaks	Oakland	Lopp & Hallenger
Wyandotte	Hupmobile	Clark & Wm. Bigler

MINNESOTA

Alexandria	Oldsmobile	H. N. Doyle
Duluth	King	Zenith Auto Co.
Duluth	Overland	Mutual Auto Co.
Glenview	Oldsmobile	Lang & Luker
Lewiston	King	Ford Auto Co.
Minneapolis	Sphinx	Santwiler-Finley Co.
Minneapolis	Pullman	A. M. Choate Auto Co.
Minneapolis	King	R. W. Munzer & Sons Co.
Minneapolis	Chalmers	Chalmers Northwest Co.
Morgan	Oldsmobile	Fenske & Dittbenner
Owatonna	Oldsmobile	Sander Bros.
Spring Valley	Oldsmobile	George H. Harris
Tracy	Oldsmobile	Thomas A. Nelson
Willmar	Oldsmobile	P. M. Peterson

MISSISSIPPI

Biloxi	Oldsmobile	Biloxi Automobile Co.
Bogue Chitto	Oldsmobile	H. E. Brister
Clarksdale	King	J. W. Turner
Okolona	Pullman	W. L. Tyson

MISSOURI

Eagleville	King	Thomas H. Tuggle
Neosho	Studebaker	Neosho Auto Co.
St. Louis	Herff-Brooks	Mogul-Vulcan Sales Co.
St. Louis	Regal	Trenton Motor Car Co.

MONTANA

Circle	King	Edward Storm
Glendive	King	J. Wileglends

Motor Car Securities Quotations

	July 24, 1914	July 24, 1915
	Bid	Asked
Ajax-Grieb Rubber Co., com.	220	300
Ajax-Grieb Rubber Co., pfd.	90	100
Aluminum Castings, pfd.	98	100
Chalmers Motor Co., com.	97	101
Chalmers Motor Co., pfd.	94	95
Firestone Tire & Rubber Co., com.	305	312
Firestone Tire & Rubber Co., pfd.	110	109
General Motors Co., com.	87 1/2	88
General Motors Co., pfd.	91	93
B. F. Goodrich Co., com.	24	24 1/2
B. F. Goodrich Co., pfd.	88 1/2	90
Goodyear Tire & Rubber Co., com.	174	178
Goodyear Tire & Rubber Co., pfd.	97	99
Gray & Davis, Inc., pfd.	98	102
International Motor Co., com.	3	3
International Motor Co., pfd.	9	9
Kelly-Springfield Tire Co., com.	51	53
Kelly-Springfield Tire Co., 1st pfd.	75	80
Kelly-Springfield Tire Co., 2nd pfd.	90	100
Maxwell Motor Co., com.	14 1/2	14 1/2
Maxwell Motor Co., 1st pfd.	43 1/2	45
Maxwell Motor Co., 2nd pfd.	17	19
Miller Rubber Co., com.	85	86
Miller Rubber Co., pfd.	85	86
Packard Motor Car Co., com.	112	110
Packard Motor Car Co., pfd.	97	97
Peerless Motor Car Co., com.	10	10
Peerless Motor Car Co., pfd.	10	10
Portage Rubber Co., com.	30	30
Portage Rubber Co., pfd.	90	92
*Reo Motor Truck Co., com.	12 1/2	12 1/2
*Reo Motor Truck Co., pfd.	20 1/2	21 1/2
Stewart-Warner Speed. Corp., com.	48	48 1/2
Stewart-Warner Speed. Corp., pfd.	99	101
Studebaker Corp., com.	32	33
Studebaker Corp., pfd.	82 1/2	85
Swinehart Tire & Rubber Co.	85	87
U. S. Rubber Co., com.	56 1/2	57 1/2
U. S. Rubber Co., 1st pfd.	101 1/2	102
White Co., pfd.	107	110
Willis-Overland Co., com.	88	88 1/2
Willis-Overland Co., pfd.	93	95

*Par value \$10; all others par value \$100.

†Ex-dividend.

Place	Car	Dealer
Jordan	King	M. A. Bogie
Miles City	King	E. Derval
Rosebud	King	Fred Bills

NEBRASKA

Brock	Studebaker	F. J. Schmidt
Fremont	Marwell	Hall & Steele
Gordon	Moline-Knight	J. M. McGraw
Hampton	Oakland	Will Van Housen
Howells	Oldsmobile	Sindelar & Hannel
Millard	Oakland	Van Dohren Bros.
Schuyler	Oakland	Boll & Zeaman
Springfield	Marwell	Albert Compte

Coming Events

*Indicates sanction by A. A. A.

July 31	Allentown, Pa.—Track race meet, Matthews Auto Racing Association.*	Sept. 18	Providence, R. I.—Speedway race meet, Narragansett Park Speedway.*
Aug. 2-3	San Francisco, Cal., Tri-State Good Roads Association, third annual convention.	Sept. 18-25	Los Angeles, Cal.—Eighth annual automobile show.
Aug. 13	Flemington, N. J.—Track race meet, Matthews Auto Racing Association.*	Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Aug. 20-21	Elgin, Ill.—Elgin road races, Chicago Automobile Club.*	Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Aug. 21	Ellenville, N. Y.—Track race meet, Matthews Auto Racing Association.	Oct. 2	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
Aug. 25-26	Newport, Ind.—Hill climb, Newport Motor Club.*	Oct. 2	New York—Speedway race meet, Sheepshead Bay Speedway Corp.
Aug. 28	Kalamazoo, Mich., 100-mile track race, Kalamazoo Motor Speedway.	Oct. 2-9	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Aug. 30-Sept. 3	Columbus, O.—Automobile show; Columbus Automobile Show Co.; Ohio State Fair.	Oct. 3-10	Annual show, St. Louis Automobile Mfgs. & Dealers Association.
Sept. 3	Arden, Pa.—Track race meet, Automobile Club of Washington.	Oct. 6-16	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Sept. 4	Twin City, Minn.—Speedway race meet, Twin City Motor Speedway.*	Oct. 16	Chicago—Speedway race meet, Speedway Park Association.*
Sept. 6-9	Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.	October 7	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.
Sept. 11	Burlington, Ia.—Track race meet, Tri-State Affair.	January 1-8	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
Sept. 17-18	Peoria, Ill. Convention of Garage Owners Association of Illinois.	January 22-29	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
		March 4-11	Boston, Mass.—Fourteenth Annual Show; Boston Auto. Dealers Assn.; Boston Commercial Vehicle Assn.

MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

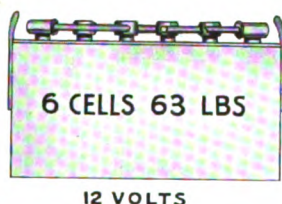
Volume XLIV
No. 5

New York, August 4, 1915

Ten cents a copy
Two dollars a year

GRAY & DAVIS STARTING - LIGHTING SYSTEM For FORD Cars

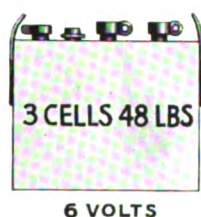
Would you buy a car equipped with
eight road wheels?



Of course not—neither would any one else. Yet, there are owners who will consider double voltage—a 12-volt electric system for FORD cars when 6-volts give greater efficiency.

The GRAY & DAVIS is a 6-volt system, a system of correct design. Low voltage means—

- saving in battery weight,
- reduction in battery size,
- 3 cells instead of 6,
- reduced cost for battery maintenance,



The illustrations tell the story as to comparative weight and size. If 6-volts are ample for every purpose why adopt a system of *twice* the voltage; why take care of 6 cells instead of 3; why use a 63 lb. battery when a battery weighing 48 lbs. will do? Those who know the value of low voltage purchase "GRAY & DAVIS."

GRAY & DAVIS, Inc.

Boston, Mass.



Copyright 1914 by
The Republic Rubber Co.
Youngstown, Ohio

Republic
Staggard Tread,
Pat. Sept. 15-22,
1908

**"Get the facts—then
decide!"**

—says Old Man Mileage

"I want to place the Republic proposition before you—to give you the detailed facts about this great business-getting tire.

"Then analyze it for yourself. Set it in the lime-light of your judgment, side by side with your present proposition, or with any proposition.

"I have no fears as to what your decision will be. Like hundreds of other shrewd business men, you will recognize the real opportunity offered you in Republic Tires.

"Get the facts—then decide."

The Republic Rubber Co., Youngstown, O.

Branches and Agencies in the Principal Cities

**REPUBLIC
TIRES**

**PLAIN, "WM"
AND STAGGARD TREADS**

TRADE MARK REGISTERED
U. S. PATENT OFFICE

Invader-Republic Tires

A quality tire for the lighter cars, made in Staggard, W M and Plain Treads in the following sizes:

28 x 3; 30 x 3; 32 x 3; 28 x 3½; 30 x 3½; 31 x 3½; 32 x 3½; 34 x 3½; 36 x 3½; 30 x 4; 31 x 4; 32 x 4; 33 x 4.

Write for details of this additional sales-getter.

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THE SLAVES OF THE LAMP...10-11-12-13

The jobber of accessories and supplies fills the place vacated by the geni of boyhood's Fairy Land. The Gibson Co. and how it conducts its extensive business.

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A new line of bodies greatly enhances the appearance of this sturdy family of speedy creations.

1916 WESTCOTT.....14-15

Line includes two sixes, at \$1,595 and \$1,295. The four has been dropped. A new big six motor.

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Brings out a six.

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\$600,000,00036

This will go into the Northwest this season for its crops. It means a mighty car purchasing power.

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Three in Boston and one each in Grand Rapids and Louisville.

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Fire authorities are bested in attempts that made life unpleasant for two Bronx garagemen.

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Can YOU raise a car body with one hand? Read Short-Cut No. 129.

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The repairman may be held responsible if his work is the cause of an injury or damages.

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Three pages of things every garageman and dealer should look over. Inspect the coupon book system on page 28.

EDITORIAL COMMENT.....30



\$1095

f. o. b. Toledo

A Dealer Opportunity

WE predict that the new Willys - Knight will revolutionize the motor car industry in this country.

The Willys-Knight motor has *noiseless sliding sleeves*.

When new the Willys-Knight motor is *quiet*. When old it is quiet almost to the point of absolute silence.

When new it is *efficient*. When old, beyond the limit of an ordinary motor, it is *even more efficient*.

A single ride in the Willys-Knight will convince the most skeptical of the marked superiority of the Knight type motor used in this car.



Write for a special Willys - Knight catalog. Please address Dept. 375.

"Made
in
U. S. A."

The Willys-Overland Company

Also Manufacturers of the famous Overland Automobiles

Toledo

Ohio

When writing advertisers please mention Motor World

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, August 4, 1915

No. 5

He Cleaned up His Garage —Now He Is Cleaning up the Dollars

E. R. MILLER
and his Greater
Profits smile



What Miller Did—

Cleaned up his garage.
Painted it inside and out.
Rented his empty space.
Built his accessory stock from
\$50 to \$1,000.
Put out some signs.
Increased his accessory profits
from \$10 to \$150 a month.
Boosted his daily receipts from
\$7.50-\$12 to \$25-\$60.
Tripled his total profits.
Got a credit rating of \$4,000.
Raised the pay of his employees.
Is now going to leave his
smooth-running, paying busi-
ness and take a big vacation
tour.

Miller Says—

"I subscribed to Motor World to
get rid of the subscription solicitor
one day when I was busy. For a
year I threw it in the waste basket
unopened.

"One afternoon when busi-
ness was slack I opened a pa-
per and saw the Campaign
for Greater Profits. I read
that paper through, have read it
every week since, and will always
read it.

"Any garageman who doesn't
read it and profit by its sugges-
tions and red-hot stories deserves
to starve to death.

"It's the best damned paper in
the world."

MILLER'S STOCK BEFORE Value, \$50

12 Rajah plugs
1 Prest-O-Lite tank
12 cans rubber patches
1 5-gallon can of oil
2 5-gallon cans of grease
10 tubes of cement
10 rolls of tape
6 cans metal polish
10 batteries
50 gallons gasoline

MILLER'S STOCK TODAY Value, \$1,086

1 barrel of batteries..... \$28
1 case liquid gloss..... 6
4 brake bands for Fords..... 6
Soapstone..... 3
Fillacut..... 10
Ever-ready lights..... 12
Antislip.....
Tire solder.....
Rivets.....
Blow-out patches..... 150
Rajah, Splitdorf, V-Ray plugs..... 100
Porcelains..... 25
Metal cream..... 10
Tubes..... 200

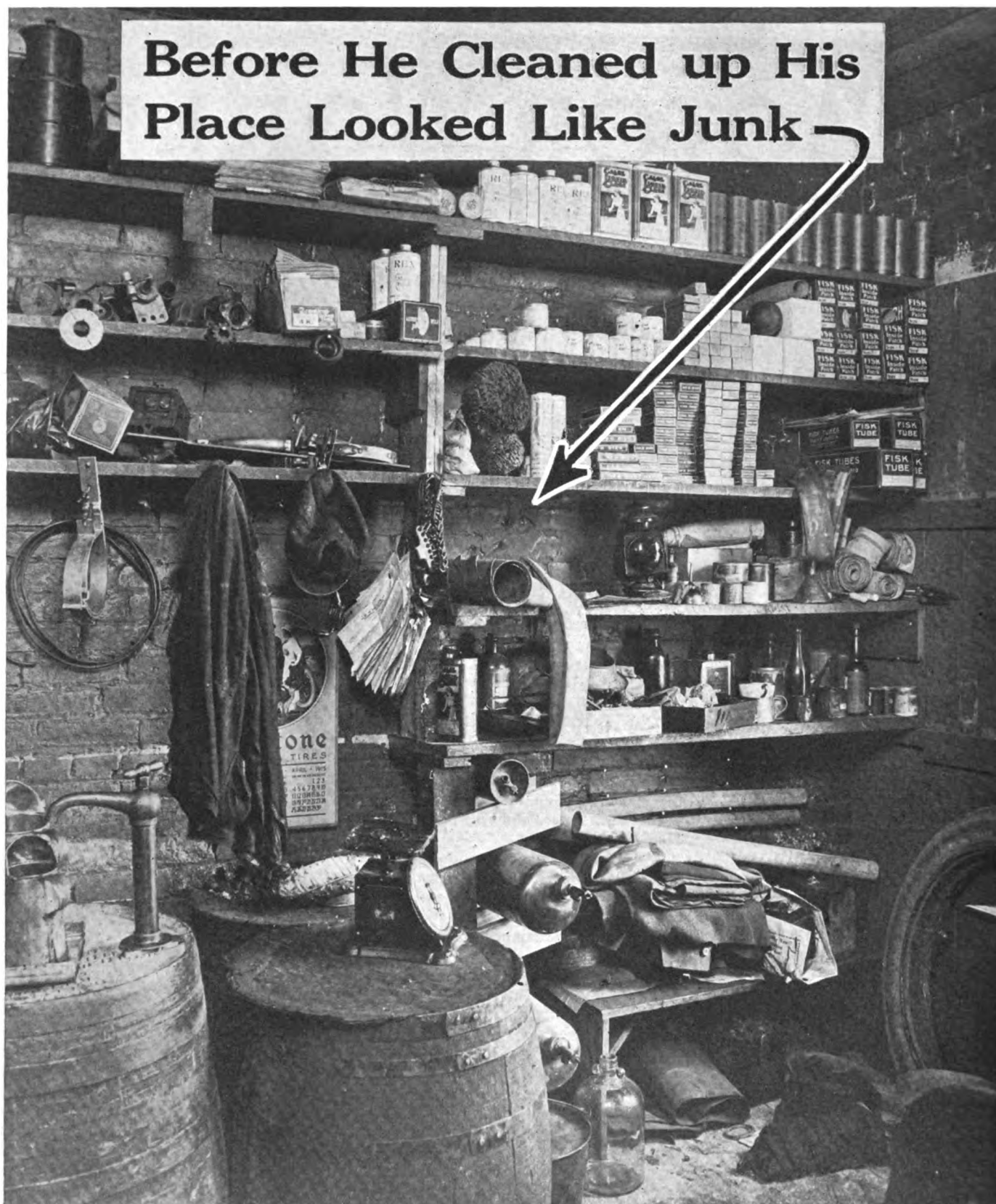
Para cement..... 5
Mica tire powder (cans)..... 3
Mica tire powder (bulk)..... 5
Stic-tite patches..... 10
Tape..... 20
Pliers..... 15
Shellac..... 10
Screwdrivers..... 6
Air gauges..... 25
Battery testers..... 29
Oil measures..... 1
Pump packing and emery cloth..... 25
100 pounds waste..... 15
Radiator hose..... 30
Rubber Prest-O-Lite hose..... 10
Horn reeds..... 5
Prest-O-Lite tanks..... 90
Valve grinding compound..... 1
Weed chains..... 50
Inner liners..... 35
Copper tubing..... 50
Copper cable..... 20
Fan belts for Fords..... 9
Lamp brackets..... 9
4 rim wrenches.....
6 tire locks.....
8 cut-out pedals.....
4 Prest-O-Lite brackets.....
Valves.....
Tail lights..... 20
Globes..... 10
Cut-outs for Fords..... 28

\$1,086

UNTIL four months ago E. R. Miller drifted along, content with the small profits that came from his repair work and the rentals in the Temple Garage at 916 Temple street, Los Angeles. Then he became interested in the Campaign for Greater Profits. Immediate action followed.

Today he is making dollars where he made cents before. He cleaned up from top to bottom, repainted his building inside and out, made his accessory stock into a display instead of a heap of junk, got in a lot more good car owners as customers and has taken a start that will put him at the top among the Bear State's garagemen. If he continues as he has started he cannot fail.

"My place looked like a junk heap until I read Motor World and realized that there was something wrong," said Miller.



The Campaign for Greater Profits caused him to look about his own place, and he at once began a Campaign for Greater Profits in his own garage. He at once saw the slipshod, unbusinesslike manner in which he had been handling accessories and supplies.

His first step was to buy a barrel of oil. He had formerly bought his oil by the 5-gallon can. His next step was

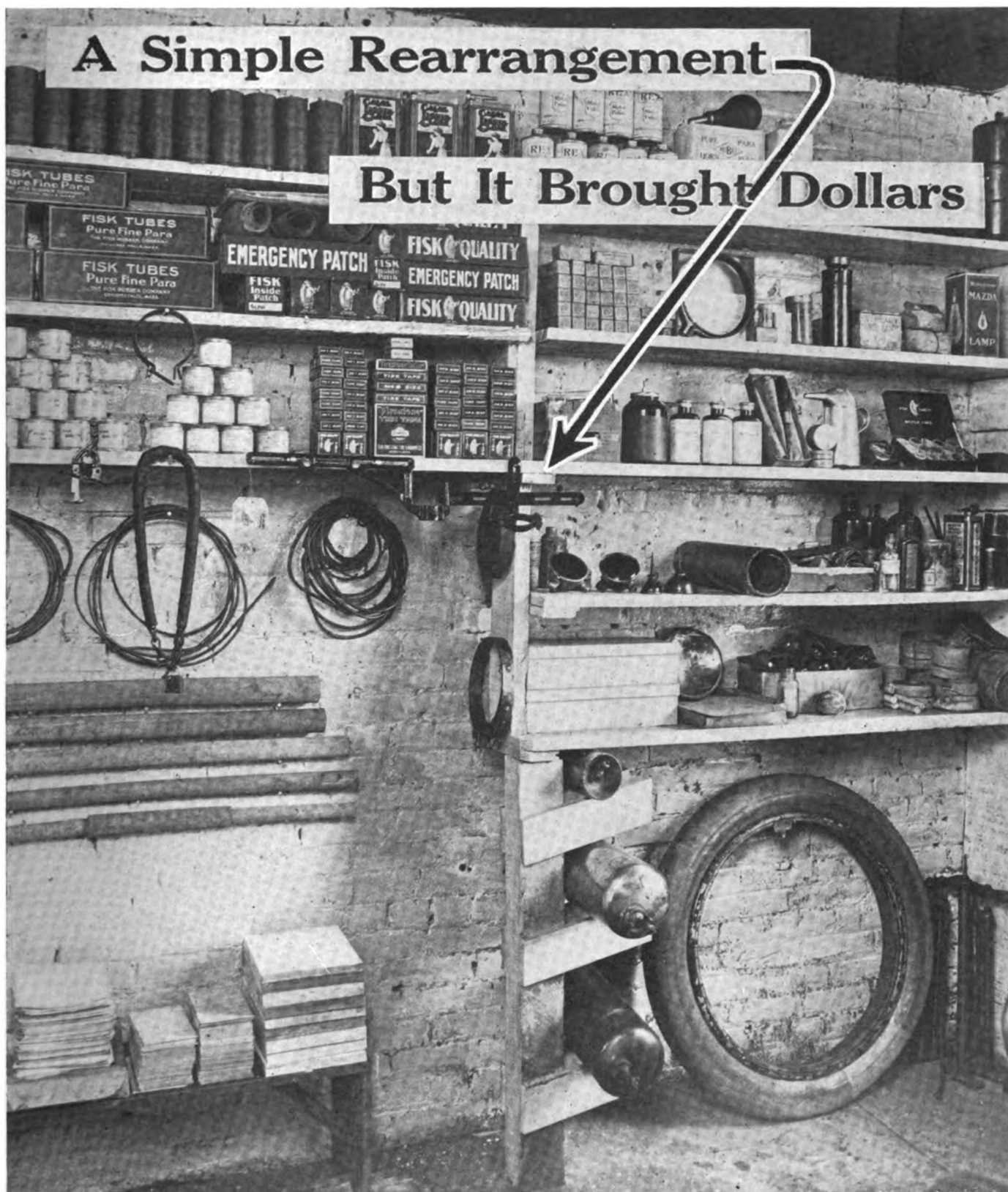
the purchase of two barrels of grease. One was cup grease and the other transmission grease. A barrel of gear grease was then added to his stock.

The 50-gallon gasoline tank was turned into an oil tank and a 200-gallon gasoline tank with a pump was installed at the rear of the garage on the lot, leveled off for the purpose.

Following a suggestion in the Cam-

paign for Greater Profits, Miller installed an air pump and had a sign painted on the outside, "Free Air." The result was an increase in business immediately. The front of the building was then painted and on the other side "Auto Supplies" was placed in large letters.

The inside of the garage was then painted, the stalls numbered and the names of the owners and their cars



placed over their rented spaces. Within a few weeks the entire 18 stalls were taken, more repair business came in and the owner turned, again to his accessories.

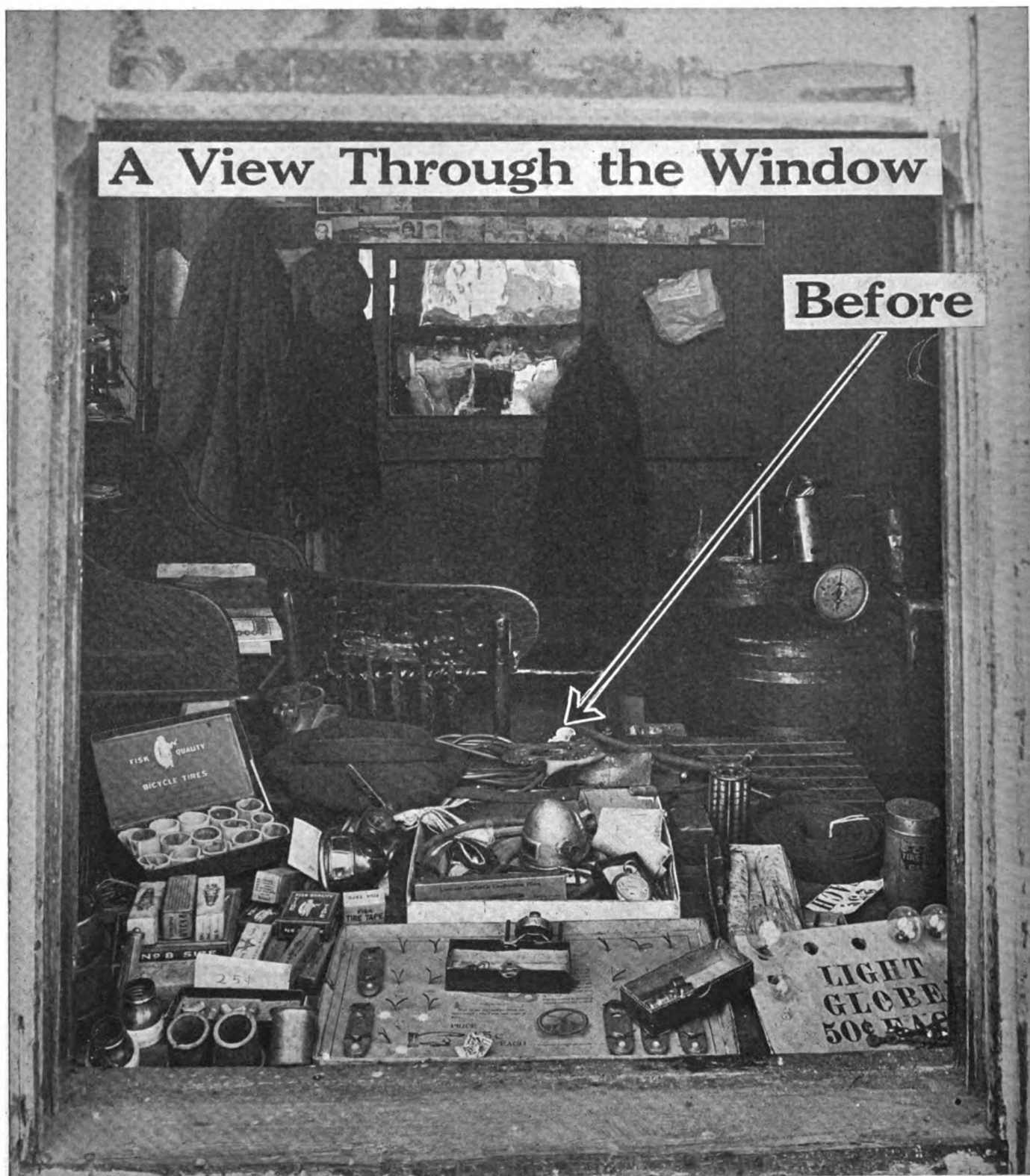
He saw an opportunity and added a barrel of special motorcycle oil to his stock. Tubes were put in stock. When a man called for an accessory Miller did not order one, but several. In this way his stock grew rapidly. He added

supplies only as they were called for by his customers.

Week by week his profits grew. Whereas his daily receipts were formerly from \$7.50 to \$12, Miller now takes in from \$25 to \$60 per day. The profits that were once about \$100 per month now run \$300 and over. His stock value jumped from \$50 to \$1,000. Miller has his touring car and is now preparing to tour the entire state, taking

in both the expositions. This, he says, he never could have done had he remained in the rut and been satisfied with the profits of his repair business alone.

Not only has Miller put his accessory profits back into his accessory stock but he has increased the wages of his men with his own profits. He is now making plans for improvements in his garage which he says will further add to



his profits, and when he has built up his accessory stock to a place where it will supply the demand he says he will reap greater profits than ever before.

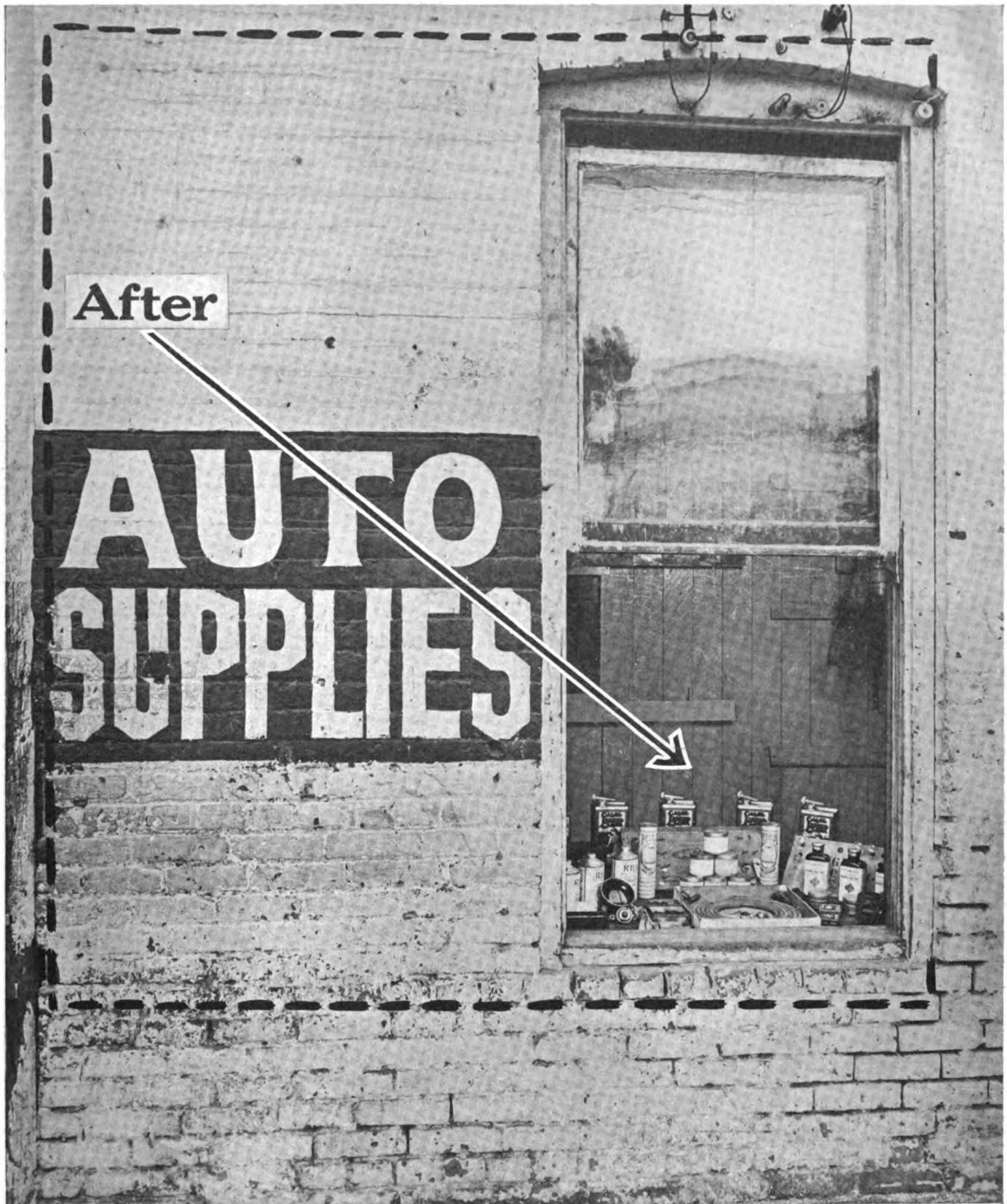
Soon after he began to realize these greater profits the garageman piled his stock in recklessly and gave little heed to appearances. It was then impressed upon him by Motor World that he was making a mistake and he cleaned house immediately. The window, which now shows his accessories to the street, is to be enlarged from 3 x 7 to 12 x 12.

His office which is now located in the same room with his accessories is to be moved to a room being built above the accessory stock room, where he now has stock stored.

"Within another year," says this garageman, who is just 31 years of age, "I will have one of the model garages of southern California, thanks to Motor World, and my advice to every garageman and repairman is to read Motor World and follow its advice."

Before Miller began to apply rules

of efficiency, a representative of Bradstreet's called upon him and refused to rate him. His entire business could have been covered by \$50, according to the mercantile rating expert. Today Miller's rating with the mercantile agencies is \$4,000. He has taken the original investment, which was \$600, out of the business and placed it in the bank with several hundred dollars profits. He owns a touring car which he rents to a Los Angeles motion picture concern at \$10 a day when not needed for his



THE BLACK DOTTED LINE MARKS THE 12 x 12 WINDOW MILLER IS GOING TO BUILD—THE SIGN WAS RECENTLY PAINTED

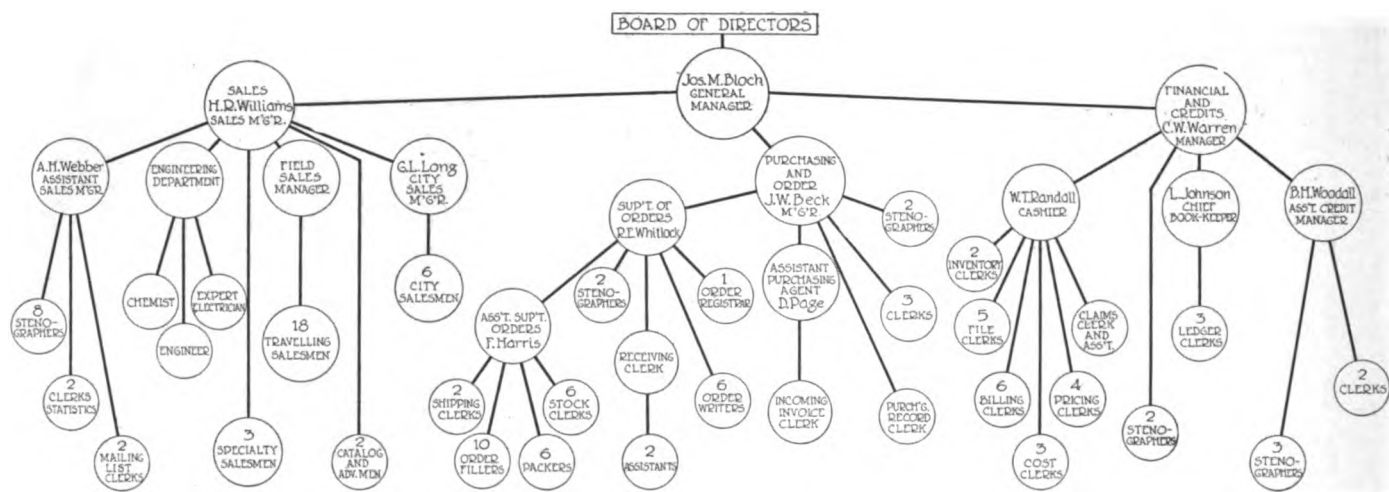
own use, and he has three men working for him.

With but a few dollars invested in accessories, Miller was afraid to put his money into the business. He says now that if he had only increased his stock sooner he would have been hundreds of dollars ahead today.

For 16 years Miller has been in the motor car industry, as a racing mechanic, driver, garageman and garage owner. He went to California for the 1912 Los Angeles-Phoenix desert race and drove an American. He drove in various contests and several years ago opened the Central Park Garage. About

two years ago he sold the Central Park Garage and opened the Temple Garage.

When Greater Profits began to come in, Miller increased his lease to five years, and just last week signed a ten-year lease calling for doubled rental every two years—but he says that it will be worth it.



At the head of the Gibson Co. is the Board of Directors, consisting of President Charles B. Sommers, Vice-president Aaron Waldheim and Secretary Joseph M. Bloch. Bloch is also general manager. Sales Manager H. R. Williams has four departments to watch over, and his assistant, A. H. Webber, guides 12 people. There are four foreign representatives—in Melbourne, Australia; Calcutta, India; Buenos Ayres, Argentine; and Algiers. There are about 125 men in the organization

The Dealer—and the Slaves of the Lamp

Mighty Giants of Distribution Carry to Him at His Call—Jobber Has Superseded Genii of Fairy Land—The Gibson Co. and How It Works

WHEN Willie Havens was a little boy and used to lie curled up and lost in his daddy's big arm chair and read those mysterious, boy-thrilling tales of the Arabian Nights, his mind would flit from the World of Every Day; he would see himself touching an old, tarnished lamp whereupon big, brawny giants would appear and say:

"We are the Slaves of the Lamp! What do you want?" Then Willie would tell what he wanted, and straightway the Slaves of the Lamp would go into the Storehouses of the World and bring it.

The passing of years and the butting of the hard-horned world has rubbed the glimmer from this dream; Fairy Land



Fig. 15—A winter goods catalog. A catalog is issued for the beginning of each season, listing goods for the weather that is coming

GIBSON AUTOMOBILE COMPANY SALEMEN'S DAILY REPORT

⑤

TERRITORY NO. 14 DATE 3/15/15

TOWN	DEALER	SOLD		APPROXIMATE AMOUNT OF SALE	REMARKS
		YES	NO		
Buffington	W. C. Smith	✓		76.54	D-7-V
"	W. C. Smith	✓			71-Box 4/12 Des
"	W. C. Smith	✓			Bought out by Charles
"	W. C. Smith	✓			A-D-7-V-10
Spokane	Foster Bros Garage	✓			A-7-B-11V
"	Paul Harding	✓			E-7-V
"	W. M. Jones	✓			Part of Buena
"	X W. M. Long	✓			Successor to Johnson
"	R. M. Whitcomb	✓		10.97	71-A-7-V
"	X Carlson Garage	✓			E-7-V
"	Edward F. Bell	✓			71-A-7-V

WILL BE IN Granville, S.C. TOMORROW, THE 3/16 OF APRIL

MAIL ADDRESS NEXT THREE DAYS Lawrence S.C. TELEGRAMS OR TELEPHONE THE AT Hotel

Signed Joe D. Mason Salesman

Saleman must send a Daily Report to the General Office each night. It must show every call made that day. One full details of results of each call. Show reasons for not selling. Indicate as nearly as possible from whom the dealer buys his supplies. Under the words "Yes" or "No" simply check whether sold or not. If sold, give approximate amount of sale. N.B.—USE REVERSE SIDE FOR SPECIAL REPORTS.

Fig. 4—Each stock bin and drawer carries a perpetual inventory card which gives up-to-the-minute records of the stock on hand

Fig. 5—Every day the Gibson salesman sends in a report of where he went, what he did and where he will be tomorrow

has faded like a vision in the movies and Willie now has no time to spend in anything but trying to make a profit from the garage he is running in Mintville, Kansas.

He is now William J. Havens, one of the town's business men—and, while he probably isn't aware of it, the Slaves of the Lamp are with him, and they work for him every day. They appear just as promptly at the touching of the lamp, they are just as big and powerful, they are just as prompt and they fill just as important a place in his life.

His Slave of the Lamp is the jobber, the mighty giant of distribution. The lamp is the jobber's salesman, and when Havens needs anything from a 5-cent

cotter pin to a \$1,000 lathe he gets in touch with the salesman, and the big Slave of the Lamp gets the stuff and sets it down at Havens' door. Without the jobber the garageman would almost have to summon the Fairy Land Slaves of the Lamp to keep up his stock and carry on his business.

One of the lustiest of the Slaves of the Lamp is the Gibson Co., which assembles in Indianapolis the product of many factories, keeps it in stock until Havens and thousands of other garagemen want it, and then carries it to them. Fifteen thousand dealers and garagemen make demands on this corporation every year, and every year the giant distributor carries more than \$1,000,000 worth of accessories, supplies and garage equipment to thousands of cities and hamlets.

Many Hands Work for Him

In the industrial make-up of the country Havens is but a small unit—a very small part—but when he commands the lamp he sets in motion an organization of many men and factories; at his expressed wish they work for him.

Since the jobbers recently formed the National Association of Automobile Accessory Jobbers this type of merchandiser has come more into the public eye, and it is opportune to disclose in detail what the Slave of the Lamp looks like inside and how he works.

The Gibson Co. differs from most motor accessory jobbers in that it caters only to the motor car trade. It does not sell motorboat or motorcycle supplies or any goods outside the car classification. It not only jobs but manufactures. It has goods branded with its own name and sells them under its own guarantee.

Part No. <u>3022</u>	Bin No. <u>26</u>		
Part Name. <u>Wiper Pins - 25¢</u>			
DATE	RECEIVED	ISSUED	BALANCE
<u>July 15</u>	<u>12</u>		<u>12</u>
<u>July 16</u>		<u>3</u>	<u>9</u>
<u>Jul 21</u>		<u>2</u>	<u>7</u>
<u>" 24</u>	<u>12 x</u>		<u>19</u>

Fig. 16—A brief study of the card shows how it operates. The lowest figure at the right always tells the stock on hand

It does not say: "The manufacturer says it's good"; it says: "We say it's good, and if it isn't good we'll make good."

It does not necessarily own the factories where its goods are produced, but it does supply capital for the operation of these factories, and to a large ex-

tent directs the manufacture of the products.

When this jobber lays down a device at Havens' door, how does he know the jobber knows it is good? The Gibson company knows because it maintains a testing laboratory of its own. An engineer is kept busy testing and trying products which the company thinks of jobbing; and they have to pass the test before they get into the jobber's catalog.

And how is the dealer served? How is it possible to have an order shipped on a Tuesday when it is not received until 3 o'clock Tuesday afternoon? How is a special delivery or telegraphic order

IMPORTANT—When a check appears opposite your department letter, place your initials in that space and pass this paper to the next department checked.

A		F		L	
B		G		M	
C		H		O	
D		J		N	
E		K		P	

TO FILE CLERK—This paper **MUST NOT** be filed unless each indicated department official has placed his initials opposite each check mark.

Fig. 14—This stamp on mail tells who is to read it. After reading, the reader checks it

Figure 6 is a yellow card for the dealer's name and business history. Figure 7 is a red card for the salesman's business history. Figure 8 is a yellow card for the salesman's report, including fields for Name, Town, State, Dealer, Source, Date New, Date Removed, and Territory No. Figure 9 is a blue card for the Addressograph Co. name plate, including fields for Name, Town, State, and a space for a rating.

Fig. 6—The dealer's name is listed on a yellow card that tells his business of preceding years. His this year's business is listed on a red card—Fig. 7

Fig. 8 is filled out and filed the first time a salesman calls on a dealer, and on Fig. 9 the Addressograph Co. is asked to make out a name plate for mailing advertising literature

always shipped the day it is received? How is the mammoth stock kept up?

How is all the routine of selling and shipping handled?

Who is Havens in the records of the Gibson company and what does it say about him on the company's books?

All these questions are answered in a description of the efficient system by which the organization operates. From the man at the top to the individual salesman who walks in the door of Havens' garage there is a chain of system which binds each part together and keeps the whole thing running smoothly.

Fig. 5—The Salesman's Report

One of the features is the method by which Sales Manager H. R. Williams keeps in touch with the road salesmen and in turn keeps them in touch with doings at the Indianapolis headquarters. There are 18 of these salesmen, traveling from garage to garage and from small jobber to small jobber, and every

day each one of them has to fill out the blank form shown in Fig. 5.

These tell the towns visited, dealers seen, and the result, no matter whether he got an order or not. If he got an order there is a space for that, and a whole lot may be said under "remarks." For example, D-N-V means "Buyer is away. Send him a catalog, for I think he is a good prospect." The sheet also tells where the salesman will be next.

But this does not end the work. More Gibson people yet are going to work over those names. The facts are transferred to a blue "town card" which gives the rating of every dealer in that town. These cards give the dealer's history. They tell how often he has been visited, how frequently he has bought and are the jobber's report on business in that locality.

Figs. 6 and 7—The Dealer's Record

Still more is done with the names sent in by the salesman. This is done on

1

ORIGINAL
REPRODUCTION OF FIGURE 10

COMP. WL
LIT. WL
BLVD. WL
BANK WL
CREDIT WL
WT

THE GIBSON COMPANY, Indianapolis.

Shipping Order

Name _____
Address _____
Filled by _____ Checked by _____
Date Shipped _____ Via _____

Our Order No. _____
Our Location _____
How Ordered _____
Subagent _____
Ship Via _____
Sales Rep's _____

SHIP'S CHECK QUANTITY

LAST PAID SET EXTENDED TOTAL

DATE AND HOUR RECEIVED

HOUR AND DATE REGISTERED

RECEIVED CREDIT DEPT.

RETURNED TO REGISTRAR

DELIVERED TO SUFF. OF ORDERS

DELIVERED TO PRICING DEPT.

PRICED BY

DATE FILED

EX. TO NUMBERS

11

12

A

B

C

D

I

E

A black and white photograph showing a perspective view down a long, narrow aisle in a library or archival storage facility. On both sides of the aisle, there are tall wooden shelving units filled with numerous small, uniform boxes or volumes, likely microfilm or microfiche. The perspective is looking down the aisle, which recedes into the distance. The lighting is somewhat dim, with a brighter area visible at the far end of the aisle.

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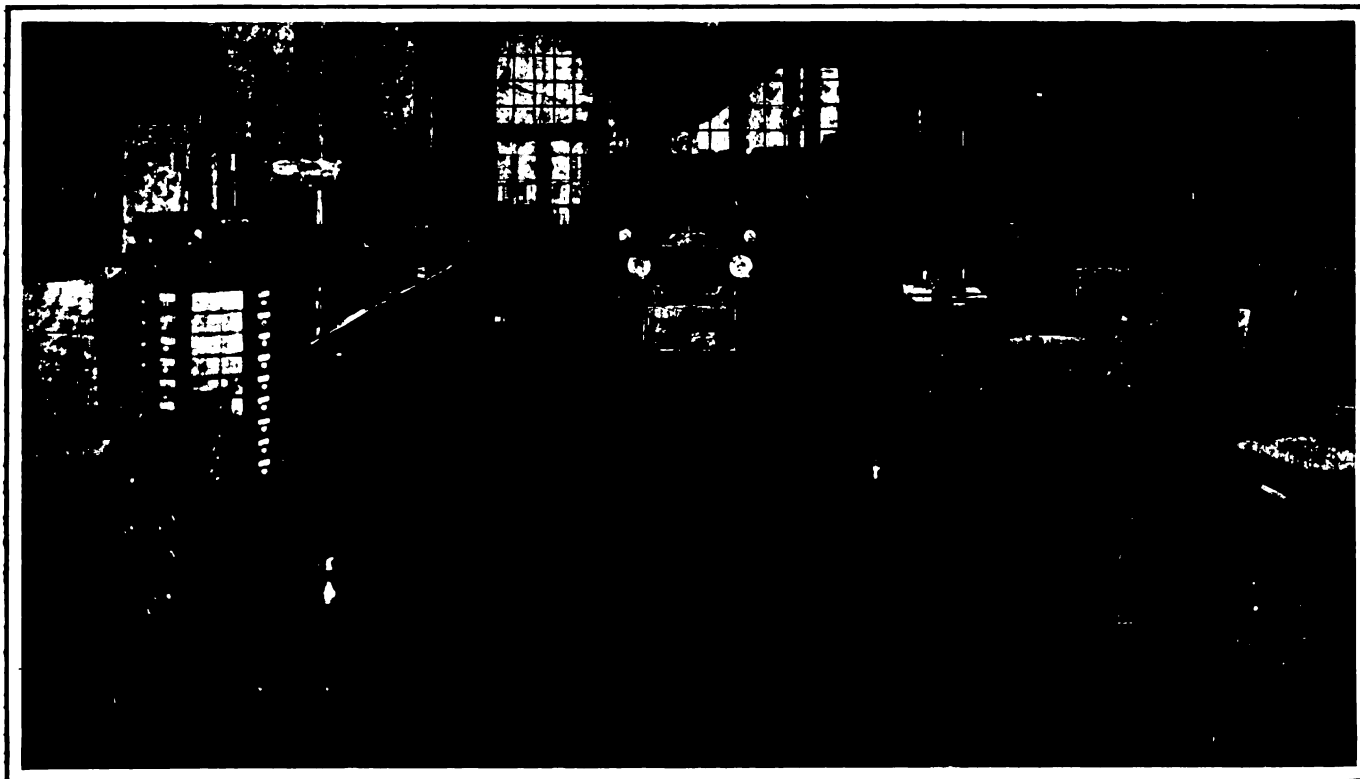


Fig. 1—In the retail salesroom of the Gibson Co. small articles of every-day use by the motorist are displayed at the front, while garage equipment and heavier articles are displayed at the rear

bin, signifying that the order is ready for shipment.

Seventh—The goods are packed.

Eighth—The blank goes back to the pricing department, where the pricing clerk figures things up and signs at E.

Ninth—The billing clerk gets the card, with any notations concerning back orders, noted at F.

Tenth—The goods, properly entered all the way through, are shipped.

This whole list of transactions takes but 30 minutes. The card places upon the proper man the responsibility for an error or complaint and gives a complete history of the order.

Fig. 14—Mail Must Be Read

The handling of mail is equally interesting. Certain men should read certain letters. Fig. 14 is stamped on each after which the department manager reads the letter. He notes by letters of the alphabet who is to read the letter and it is passed on from man to man, each checking his letter of the alphabet as he reads. No man can say "I didn't see that letter." The check tells the story. The system is especially valuable in the issuance of general office orders.

Fig. 10—Keeping Salesmen Posted

Modern methods are also discernible in keeping the catalogs of salesmen up-to-date. Special letters—Fig. 10—must be pasted in every day, giving price changes or changes in the line of goods. This information is sent out the minute

it is received, which keeps the salesmen as fully posted as the main office.

Fig. 15—Catalogs for the Seasons

Literature is mailed to dealers and salesmen on a large scale. Every effort is made to push seasonable goods. Fig. 15 is a small booklet sent out at the beginning of cold weather and lists a number of accessories needed, such as primers, radiator covers and anti-freeze. Articles not moving rapidly are often given a special price and pushed.

In acting as a funnel through which

this enormous volume of goods goes from factories to dealers but 150,000 feet of floor is used in Indianapolis, for here is merely a sort of temporary storeroom and clearing house. The warehouse is in Brightwood, a suburb, and the showroom, general offices and shipping department are in a three-story building on Capitol avenue, the automobile row.

Fig. 1—The Retail Salesroom

The Indianapolis retail sales are but 1 per cent of the total business. The

(Continued on page 33)

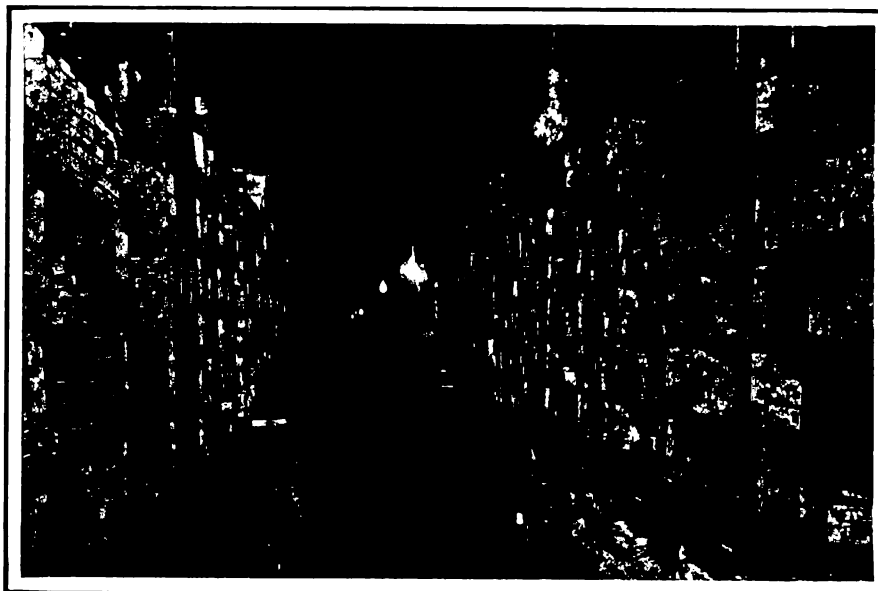
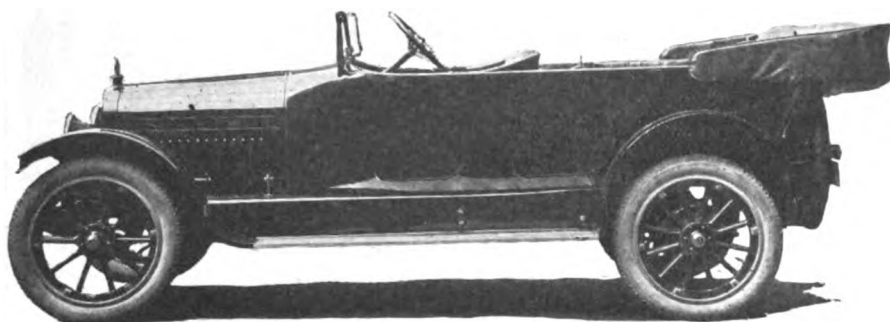


Fig. 13—Heavy goods are kept down low and lighter, smaller materials higher up. On each bin or compartment is an inventory tag—Fig. 16—which tells the exact condition of the stock

Two Westcott Sixes for 1916

Smaller Model at \$1,295 New—Older Model Revamped



In the larger Westcott, the power plant and body are new, the springs are longer, the wheelbase is longer and the tire size larger

THE plans of the Westcott Motor Co., Richmond, Ind., for 1916 include a new edition of the six-cylinder, seven-passenger model U-50, at \$1,595, and a brand new small six at \$1,295. The four of 1915 has been discontinued. The U-50 now is styled model 51 and is selling at a price \$10 higher than the 1915 car.

The whole car has been gone over and wherever a betterment could be made and at the same time keep the weight, appearance, strength, etc., to the company's standards it has been done. The power plant is new, the body also, the springs are stronger and longer, the radiator has better lines, the frame has been altered, the wheels made stronger, the tires size increased, the wheelbase increased, and a number of other changes made.

Power Plant Is New

The Westcott 51 power plant is entirely new, being a Continental $3\frac{1}{2} \times 5\frac{1}{4}$ motor instead of that used in 1915; a Warner, Muncie, disk clutch instead of a cone, and a Warner three-speed gearset instead of that employed previously. These changes have resulted in more power, the old motor having dimensions 3×5 , better throttling and more efficient all-round performance.

There is nothing in the power plant which is out of the ordinary. The motor has its L-head cylinders cast in block with the exhaust manifold on the right side with the valves and the carbureter on the left side feeding through cored passages. The carbureter is a new type Rayfield, set almost as high as the top of the casting, thus affording easy adjustment. Directly behind the carbureter is a Stewart vacuum feed tank bolted to the cylinder casting by a small bracket. The Delco cranking, lighting and ignition unit is on the right at the rear so as to start the motor through the toothed flywheel and in front on the same side is a Stewart tire pump driven from the water pump shaft. The power

tire pump is added equipment for 1916.

This model Continental motor uses a three bearing crankshaft with bearing sizes as follows: Front, $2\frac{3}{16}$ diameter by $2\frac{7}{8}$ long; center, $2\frac{7}{32} \times 2\frac{1}{2}$; rear, $2\frac{1}{4} \times 3$. It drives a three-bearing camshaft through helical gearing. The camshaft bearings have the following dimen-

WESTCOTT'S TWO SIXES

Price—	Big Six	Little Six
Touring, 7-pass....	\$1,595	....
Touring, 5-pass....	....	\$1,295
Make of motor..	Continental	Continental
Shape	L-head	L-head
How cast.....	Block	Block
Bore	$3\frac{1}{2}$	$3\frac{1}{4}$
Stroke	$5\frac{1}{4}$	$4\frac{1}{2}$
S. A. E. rating.....	29.4	25.3
Carbureter	Rayfield	Rayfield
Starting-lighting	Delco	Delco
Clutch	Disk	Disk
Gearset	3-speed	3-speed
Wheelbase	126	120
Tires	$35 \times 4\frac{1}{2}$	34×4
Wheels	Wood	Wood
Steering	Left	Left
Control	Center	Center
Make of axles.....	Timken	Timken
Type rear axle..	Spiral bevel	Spiral bevel
Equipment: Top, windshield, speedometer, power tire pump, tonneau lamp; on big six, Motometer and cigar lighter.		

sions: Front, $2\frac{19}{32} \times 1\frac{1}{2}$; center, $2\frac{3}{8} \times 1\frac{1}{8}$; rear, $1\frac{1}{2} \times 1\frac{3}{4}$, the first dimension being diameter. There is nothing of unconventional design about any of the other parts, such as pistons, rods, etc. The former carry three rings $\frac{3}{16}$ inch wide. Valves are $1\frac{11}{16}$ inch diameter.

The oiling system is the same as in other large Continentals—force feed and splash, using a horizontal plunger pump driven from the camshaft by eccentric action forcing oil through copper pipes to the timing gears and rear main bearing. The oil drains back to the oil pan where it is used for splash for the cylinders and pistons.

In the power transmission system there is a tubular shaft fitted with Spicer

joints and a Timken rear axle with spiral-bevel gears, these members having been used in the 1915 car in practically the same form. There has been a slight change in the torque member, which now has a steel hanger in front instead of one made from malleable iron.

The cantilever rear springs, while they are the same design as in the 1915 car, now are made of chrome-vanadium steel instead of carbon steel.

Frame Is Strengthened

The frame has been altered in the rear so that it extends beyond the rear cross-member so as to form a gasoline tank support. In the older models brackets were riveted to the frame and the tank suspended from the brackets. The new construction is much stronger than that previously used and there is not as much strain on the frame cross-member. Also the tire carrier is incorporated in the frame extension, and the gasoline tank now has a goose-neck filler.

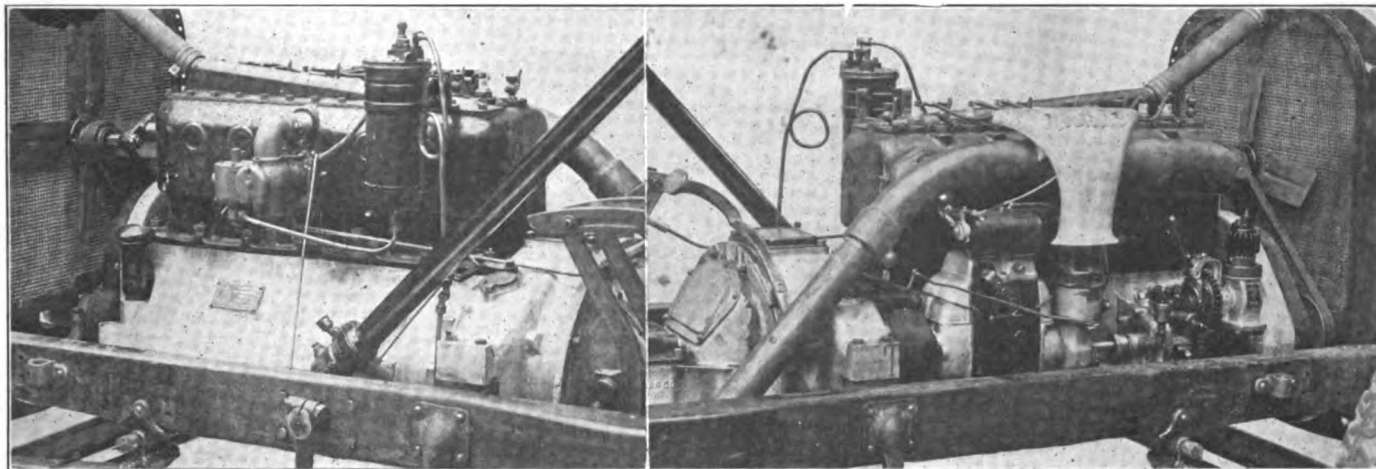
The steering post is of Gemmer make for 1916 instead of that used in 1915, the fenders are heavier and slightly broader, the control pedals have been made easily adjustable and all the sheet metal work on the car securely bolted so as to prevent rattling.

The rear wheels are stronger than those used on the former cars, and in order to insure rigidity alternate spokes are bolted to the brake drum. The wheel rims are now Firestones instead of the straight side one-piece variety, and carry $35 \times 4\frac{1}{2}$ tires instead of 34×4 , the tires being Kelly-Springfield non-skids all around. The wheelbase now is 126 inches instead of 125.

Body Much Improved

There are many body changes, all of which have been made to gain added comfort and appearance, although the former has been the dominating factor. This body is an entirely new job, larger than the previous one, with additional equipment, and with better lines. In order to get a better slope from cowl to radiator the latter has been made 1 inch narrower and 1 inch higher and there has been a rounding out of the sides just back of the hood. This rounding out has been extended to the rear of the body, with the result that there is much more room across.

In order to do a better job of the divided front seats the backs of these now run into the body moulding which is of black wood. The seat moulding at the top also is of this wood and at the junction of seat and body moulding there is no line of demarcation; instead, the two are gracefully curved into one another. These seats now are hollow underneath, so as to accommodate the two extra folding chairs which, when placed away, may be covered by a neat



The carburetor of the Westcott motor, a new type Rayfield, is mounted high on the casting and fed from a vacuum tank; Delco apparatus and Stewart tire pump are accessibly mounted on the same side

flap. Also when the extra seats are not in use the floor slots are completely covered by carpet.

While there has been a tonneau light in the back of the right front seat in the older models, the 1916 cars have this, and in addition a cigar lighter in the back of the left seat. The lighter is operated by electricity and the wires are wound on a spool.

Under the rear seat there now is an easily-removable plate so that when the rear seat cushion is removed it is an easy matter to get at the differential housing to fill or drain it.

Straight-piped Upholstery

The upholstery is of new design and is called straight piped. In this the leather is formed into folds, which are stitched, thus doing away with buttons and making a more satiny method since the spaces around the buttons house dirt. The upholstery now is of bright leather instead of dull.

The top is a new type of one-man with the rear portion of one piece with an oval window, and extending part way around the body. The Jiffy curtains furnished are fitted with springs to prevent flapping.

The cowl has been changed so as to accommodate the new instruments necessary with the changes in the power plant. There now is an oil pressure gauge instead of a sight feed, and a new ammeter.

In the equipment there is a new type of windshield with overlapping halves and a Motometer which was not used on the 1915 cars.

To describe the small six would be to repeat the information just given relating to design. The only difference between the large and small models is in the wheelbase, which on the latter is 120 inches, the tires, which are 34 x 4, the motor, which is 3¼ x 4½, but of the same make and design, and in the body capacity and equipment. The body is a five-passenger and is not fitted with a

cigar lighter, nor is a Motometer included in the equipment.

Seaward Wins Saxon Run

DETROIT, July 29—C. F. Seaward, Jr., Kokomo, has been declared the win-

ner in the economy run recently held by the Saxon Motor Co. He covered 327.2 miles at an average of 26.2 miles per gallon of gasoline and he used 1 quart of oil. There were all told 105 contestants and all drove Saxon sixes.

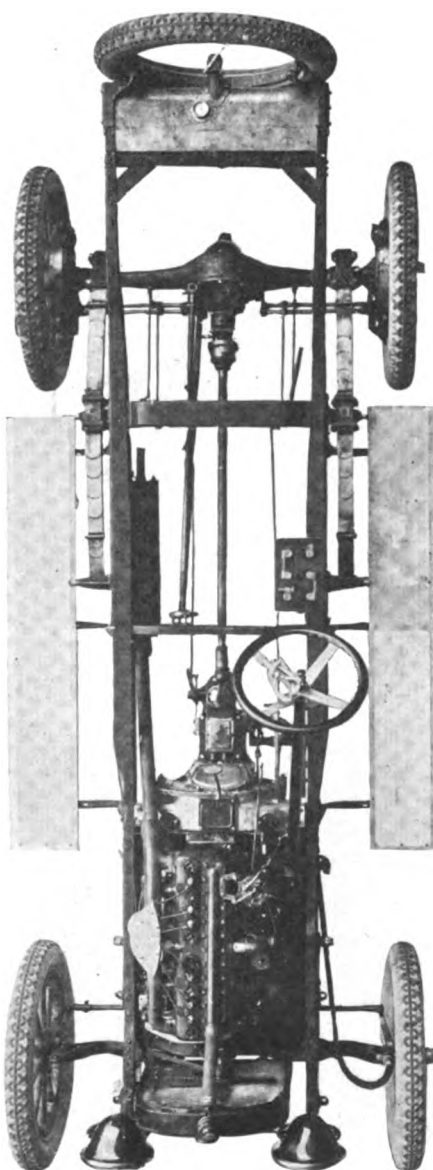
J. S. Hoffman, Sharon, Pa., averaged 26⅔ miles per gallon of gasoline, which is a better record than the winner's, but the distance he covered was less than that of Seaward and the roads he traveled were in better condition. Another good record was that of E. H. June, Binghamton, N. Y., who covered 234 miles, averaging 25⅓ miles to the gallon of fuel.

William P. Knipper, Rochester, N. Y., made a non-stop run, it is said, covering 462 miles, averaging 24 miles per gallon of gasoline. Another long run was made by Miss Edna Riesenthal, who drove to Milwaukee, a distance of 480 miles, at an average of 24 miles to the gallon.

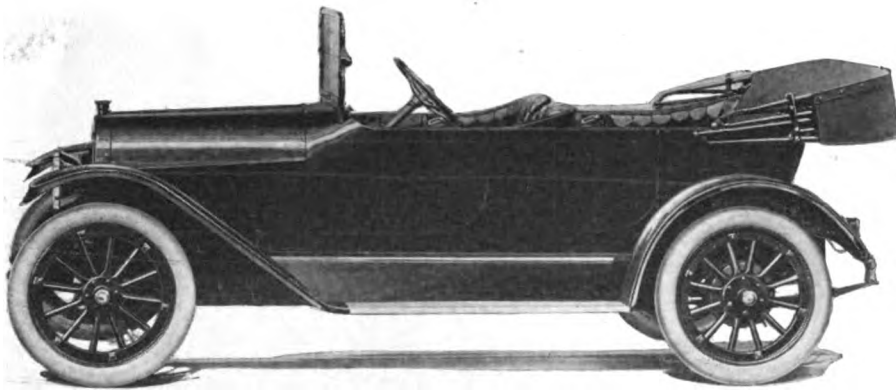
All told, the 105 dealer-contestants covered a total distance of 26,377 miles, or an average of 252 miles for each. The average mileage was 21 miles per gallon of gasoline and 152 miles per quart of oil.

Michigan Fair Show List Filling

DETROIT, July 29—At the annual Michigan State Fair which will be held here September 6-15, the motor car show again will be one of the features. Most of the local automobile dealers have already taken space, it is said, by the fair officials, and like last year the Ford Motor Co. will have a miniature Ford assembling plant in operation. Among the passenger cars thus far on the list to be shown are the Ford, Dodge, King, Haynes, Grant, Reo, Mitchell, Cadillac, Hudson, Studebaker, Buick, Ross, Overland, Oakland, Chandler, Hupmobile, Chalmers, Chevrolet, Willys-Knight, Ohio electric, Maxwell, and the following makes of trucks: Standard, Kalamazoo, Kosmath, Signal, Federal. Accessory dealers are also applying for space at the exhibit.



The Westcott frame has been lengthened



The Great Western six has exceptionally clean lines

Great Western Adds Six Selling at \$1,185

Unusual Storage Space Feature of Roomy Body

AFTER having built four-cylinder cars only for years, the Great Western Automobile Co., Peru, Ind., has brought out for the 1916 season a six, built only in touring form, which sells for \$1,185 and shows unmistakably that no little thought has been bestowed upon its design and construction.

While the car is conventional throughout, there are details that are out of the ordinary, notably the tool and luggage compartments. The levers in the front compartment are set well forward, and the wide floor space between them and the seat forms a lid for a tool and battery box extending from side to side of the body and divided, one side being reserved for the battery and the other for the tools; there is plenty of room for both. The tool box can be removed bodily. Under the front seat is a smaller compartment for storing the slip cover for the top and extra inner tubes; this is reached by a little door in the back of the seat. Under the tonneau floor are two more compartments, each large enough to hold two suit cases.

The front seats are divided, leaving a passage between them. The lower halves of the doors, as well as the lower part of the back seat and the tonneau floor are covered with a gray Wilton carpet.

The car is built on a frame which has straight sides tapering from a wide rear to a narrow front. The motor is carried low down, to give as nearly as possible a straight line drive; it has block-cast L-head cylinders 3 x 5, three-bearing crankshaft, constant level splash lubrication with pump delivering oil to the compartment containing the camshaft from whence it is distributed, Schebler carbureter and battery ignition through Remy distributor and coil.

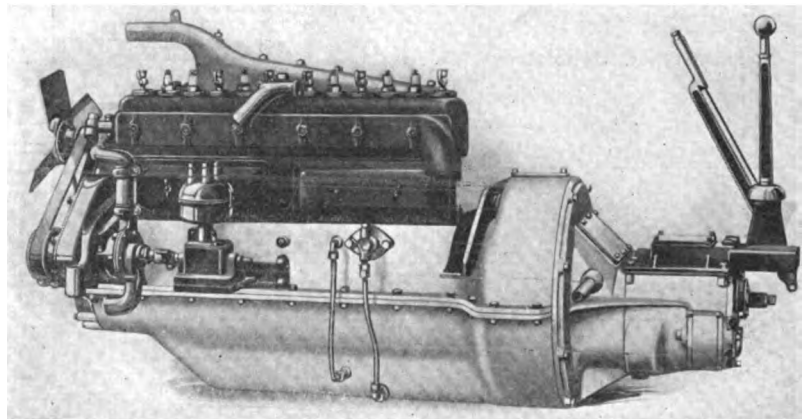
The transmission system includes a

1916 GREAT WESTERN SPECIFICATIONS

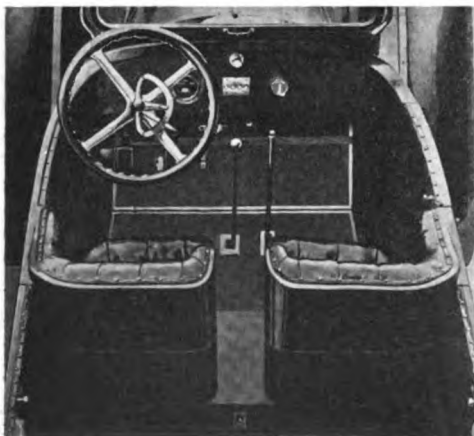
Price, touring.....\$1,185
 Color Black
 Number of cylinders.....Six
 Bore 3
 Stroke 5
 S. A. E. rating.....21.6
 Ignition Remy
 Starting-lighting ... Ward-Leonard
 Clutch Dry disk
 Gearset 3-speed
 Tires 33 x 4
 Type rear axle..... $\frac{3}{4}$ -floating

Equipment: One-man top, Jiffy curtains, windshield, motor-driven horn, Stewart speedometer, gasoline gauge, tire carrier, robe rails, tools in special tool box.

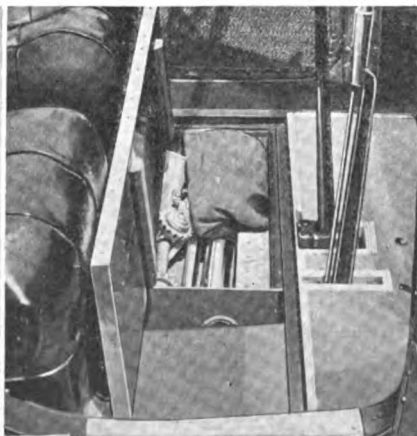
dry-disk clutch, three-speed gearset and three-quarter floating rear axle. Springs are all semi-elliptic, the rear springs being underslung. Wheels are of wood shod with 33 x 4 tires. The wheelbase is 118 inches. The Ward-Leonard single unit starting-lighting outfit is installed on the right side of the motor, drive being through silent chain running in a bath of oil.



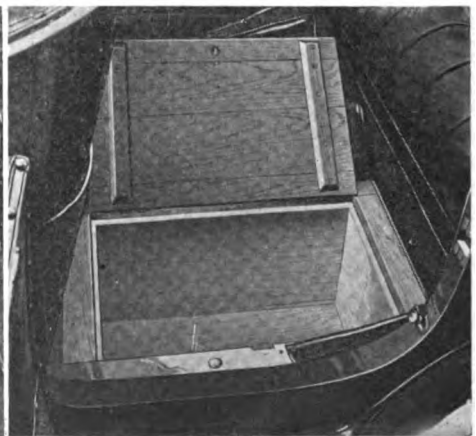
The Remy distributor is accessibly mounted; a Ward Leonard single unit lighting and starting system is installed on the opposite side



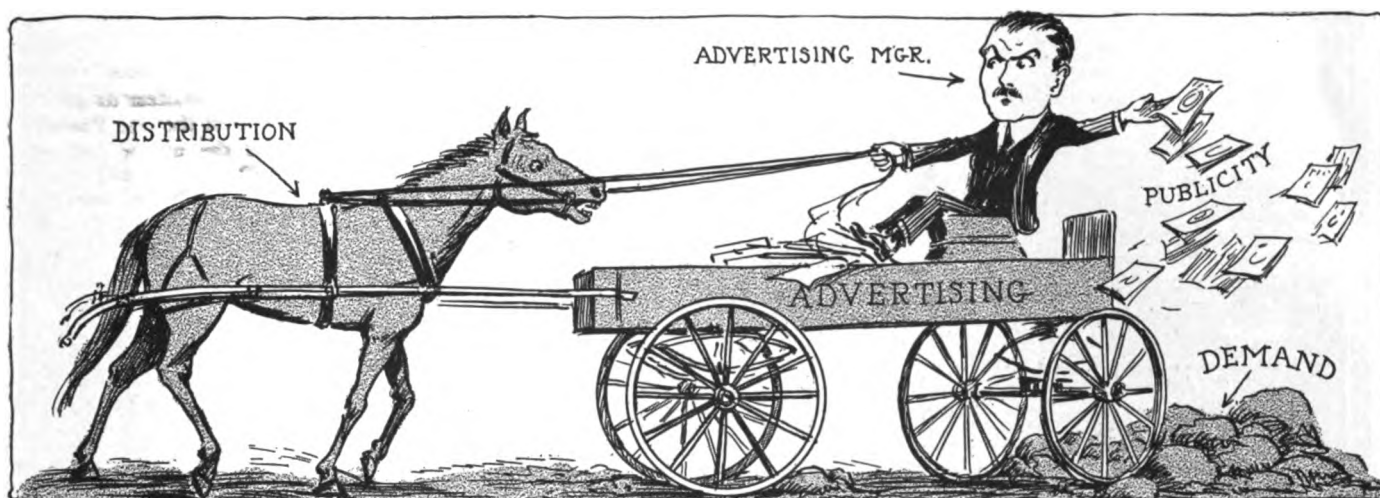
Between the two forward seats there is a broad aisleway



The front floorboard lifts revealing a large storage compartment



In the tonneau floor there is another commodious locker for tools



The Advertising Cart Got Ahead of the Distribution Horse

And so the Sales Plan Miscued—Reilly and Jerry Sullivan Analyze the Fault of Several Sales Campaigns

By Ray W. Sherman

"THIS sounds pretty good to me." "Whazzat?" asked Tommy Trumbull.

"This Everwear cord tire," replied Reilly, handing to his junior salesman a pretty yellow circular which had just come in in the morning mail. It said a lot of good things about the Everwear's latest product, told how it had done wonders in racing and on the roads and played it up so cleverly as to arouse the desire of the penny-loving motorist—who is far from being an extinct or rare species.

Off To the Tire Store

"Guess we ought to try out one of those," added Reilly a half hour later, as he finished dictating a half dozen letters and handed the remainder of the heap to Nellie the Typewriter Chauffeur to answer according to notes the boss had made thereon.

To the Everwear branch Reilly drove in the demonstrator, leaving Tommy in command of the office, and at the branch he strode boldly to the big flat counter inside the door and demanded to be shown forthwith a 34 x 4½ Everwear cord tire, non-skid, pure Para, Sea Island cotton, all wool and guaranteed to run 3,500 miles on the back streets of Cal-lawassa.

"Can't be done!" smiled Tony Giovanni, the young ought-to-be reservist who presided.

"Why not, Tony?" asked the car dealer.

"We haven't any," was the full and complete explanation.

"Haven't any? When will you have any?"

"I really don't know, Mr. Reilly," replied the young tire salesman. "The factory hasn't advised us as to when any of them will be here, we haven't seen any, and I haven't the slightest idea when we will get them."

"But they're sending out circular matter on them. See—" Reilly held up his "—I got this one in the mail this morning. It says: 'Call at our nearest branch and inspect this wonderful tire.'"

Tony looked at it long and carefully. He shook his head and handed it back. Reilly put it in his pocket with a look of disgust and went out. In the door he met Jerry Sullivan, the Everwear territorial man, on his way in. They helloed as old friends should.

"Jerry, you fellows are a fine, rich lump of camembert!" was Reilly's supplementary salutation. He handed the folder to the tire man.

He Had Seen It Before

"Don't show it to me! Don't show it to me!" Sullivan pushed it away with a gesture. As the movie men say, he registered annoyance and I've-seen-it-before.

"Why, Jerry!" remonstrated Reilly. "The idea! Am I not the first man to—"

"Indeed you're not! You're at the foot of the list!" was the tire man's

retort. "The next man that shows me one of those dies. It is his death warrant!"

Reilly stared at Sullivan with a curious little smile.

"Reilly," said Sullivan, "those folders have caused me no end of trouble. You know I seldom pan my factory and never do except to an old friend like yourself, but somebody made a fine mess of things when those folders were let to go out."

"Yes?"

Hurt Business Badly

"All our dealers are up in the air, they're all getting sore, it has hurt our business more than you can imagine, and when we do get ready to push those tires we've got to shove harder than ever to make any progress at all. Here we've circularized the country on this new tire and we haven't a single one we can sell. Production isn't in any condition to meet a demand of any consequence, and all we can do is turn down orders galore.

"It's the old, old story of letting your advertising get ahead of your distribution. This tire is bound to be popular because it's good. We know it! We're sure of our ground! But what's the use of advertising the thing until we are in a position to deliver it. That's what hurts.

"We know that the minute we get the thing ready the public is going to want it, but if it is asked to come and get it and then can't get it there is going to be a feeling of dissatisfaction, and the



EXTERIOR OF HAMLIN'S PLACE OF BUSINESS



HIS MARBLE AND CIRCASSIAN WALNUT SALESROOM

man who makes a couple of attempts to get it and fails isn't going to warm up again very quickly when we do get ready to deliver. The time for us to advertise is when we are all ready to produce the goods. It is crying Wolf! Wolf! when there is no wolf. Then when the wolf comes nobody will pay any attention to us."

"Who did it?"

"I don't know!" exclaimed Jerry. "I have been away from the factory for a week and the first I knew of this was when the dealers began to raise the devil. The advertising department and the sales department must have slipped a cog in their cooperation; otherwise I can't see how this stuff could have been put out when we haven't any of those cord tires ready to sell."

"I hardly think it's a matter of judgment, Jerry," said Reilly. "Your people are too good to do a thing like that, even if it is an old and common fault of merchandisers and manufacturers. The man who begins to advertise before he is ready to sell does more than waste his literature and postage; he hurts himself more than he can measure until the after effects begin to pile up on him."

"It's just as the Sennett people did years ago when they got anxious and wanted to beat the bunch. They shot out their advertising, even using big space in the newspapers in the cities where their dealers were located. They shot off a lot of it right here in Callawassa. Those were the days when people would buy anything that smelled and made a lot of noise, and they flocked into my salesroom—such as it was—and wanted to see the new car."

"Maybe I wasn't sore. At first I was tickled at the response, but when I finally did get the cars and tried to get those first enthusiasts back I saw the mistake. They wouldn't come. The advertising had only served to get them enthused on cars in general and by the time I got ready to deliver they were running around after all the cars on the row."



RALPH C. HAMLIN
Franklin
Los Angeles, Cal.

"Ben Doyno, the supplyman, did the same trick himself when he was new in the business. He hooked up with a new device and was so enthusiastic over it that he began to shoot out his advertising. The advertising took like vaccination, but Benny didn't have the goods and it was a whole year before he got over the setback he received because his advertising was so far ahead of his distribution. It's like putting the horse behind the wagon. He can push all right but he can't steer the craft. The first pebble the front wheels hit it's all off with the whole outfit. It can't be done, never has been done and never will be done."

"It's an awful mistake—no use talking!" Jerry wiped big drops of water from his forehead. "I certainly am booked for one fine big lot of explaining to all our dealers. And gosh darn it! I haven't been able yet to cook up a good story to tell them!"

He Cleaned Up

Page 5

Oldest Dealers

THE second oldest dealer of the Franklin Automobile Co., Syracuse, N. Y., is Ralph C. Hamlin, 1040-44 South Flower street, Los Angeles. He is also that company's biggest dealer—and its best known. He has handled the Franklin continuously since 1905; the car first appeared in 1902-3.

Hamlin first broke into the world of speed-on-wheels in 1896 when he opened a small store in Los Angeles in which he "offered bicycles for sale," but mostly did tire fixing, spoke replacing and crank-hanger adjusting. He early got the speed bug and perspired freely over the ram's-horn handle bars until he put a regular star in his crown by winning the famous Los Angeles-Santa Monica bicycle road race from 100 starters.

He got the first motorcycle that crossed the Rockies. Business kept improving, and when the Orient buckboard appeared Hamlin grabbed it. It was his first motor car. Inasmuch as it required capital to handle a new car business—and he had none—he started in trading and rebuilding cars to get the capital. In 1905 he was able to set up as a regular dealer, with the Franklin. The growth of his business had up to now necessitated six changes of location, and when he opened salesrooms on South Olive street in 1909 he was the only dealer on what is now the city's automobile row. Sensing the westward trend, he bought property and built his own building in 1913 on South Flower street. His present structure, 87 x 155, is one of the show spots of the town's motor colony.

Both fame and fortune have come to Hamlin through racing, from the days of the wheel down to his victory in a Franklin in the Los Angeles-Phoenix desert race in 1912. Hamlin tried this desert ordeal—America's toughest contest—three times before he won. Then he wisely quit. He is one of the best examples of how the glitter of the lime-light can be turned to gold.

Facts About Cars

Power Increased By Muffler

That it is possible to increase the horsepower of an engine by adding a properly designed muffler is illustrated in the current issue of *The Autocar*, in which experiments are described by one C. J. Booth, who, with a standard four-cylinder engine, 100 x 140 mm. (3.93 x 5.51 in.) was able to show an increase in horsepower by fitting satisfactory mufflers, as compared with the power generated when neither muffler nor exhaust manifold was fitted.

With the engine operating at 1,750 r. p. m. the horsepower obtained without a muffler or exhaust pipe was 41.75; when long straight exhaust pipe which ran with easy sweeps into one exhaust pipe were added the power was raised to 44.5 horsepower; when the standard muffler used on the car with the standard exhaust pipes was fitted the horsepower was 36.75, or less than without exhaust pipes or muffler, and finally, when this standard muffler was modified, the horsepower output was increased to 42, which was in advance of that obtained without muffler or exhaust manifold.

At lower crankshaft speeds similar though not so prominent results were obtained. The accompanying table shows the results at different crankshaft speeds. The tests were made with an ordinary electrical dynamometer. The type of muffler used was a simple one, having an expansion chamber divided by three baffle plates. By removing two of the baffle plates it was possible to obtain increased power, as shown in test 4 in the tabulation.

Squeezing Into a Curb Space

One thing that few can do is to bring the car close to the curb where there is only two or three feet space at either end of the car. Since many cities require that cars be driven close into the curb in order that passing traffic may not be interfered with, understanding how to place the car close to the curb in a small space is important.

Instead of trying to drive right into

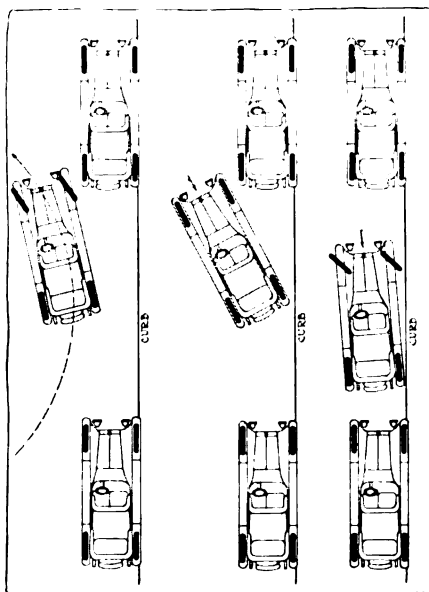


Fig. 1—Diagram showing best method of backing into curb

the space, swing the car into the opening on as short a radius as possible, Fig. 1.

The next step is to straighten out the wheels and back the car up. Possibly it will be necessary to cramp the wheels in the other direction a small amount. Bring the rear wheels of the car nearly to the curb, so that the front wheels of the car will be clear of the vehicle in front. Then cramp the wheels sharply to the left and the machine should come close to the curb.

Beware of Impure Soap!

In buying soap for washing cars the dealer should endeavor to obtain a brand that is pure, for many soaps are adulterated to bring up their bulk. There are many kinds of adulterants used, and all of them take more or less moisture and free alkali to hold them properly combined in the soap. Dry soap powder does not require moisture, yet there is a new process whereby a soap powder contains 35 per cent of moisture and appears perfectly dry.

The soft potassium soaps are the safest and best soaps for use in cleaning painted and varnished surfaces. Sodium oxide soap will have a dulling effect on a varnished surface much quicker than a potassium oxide soap.

Steering Arm Alignment Explained

Fig. 2 shows the Ackerman principle of steering. The steering arms are aligned so that their center lines intersect at the central point of the rear axle. This alignment is independent to some extent, of the wheel alignment, as both wheels may be correctly cambered and gathered, with one of the steering arms at a faulty angle. In moving straight ahead this would have no effect, but in turning the wheels do not run on a true circle, so that both wheels are subjected to a tire grinding. The same effect results from the tie rod being too short or too long.

Effect of Heat on Tire Pressure

That under-inflation and not over-inflation is the danger to guard against in summer and that the practice of many drivers to use a lower pressure in hot weather to compensate for the rise due to heating, is wrong was shown by a recent test of the Goodyear Tire & Rubber Co., in which a pressure increase of 4 pounds was found after some hard driving on a very hot day.

A runabout was chosen for the test and its weight was considerably greater than that recommended for the 33 x 4 tires used. The tires were pumped to 80 pounds pressure in a cool garage and after some intermittent driving the car was driven at high speed continuously for ½ hour over hot brick pavement and wood pavement covered with tar. The test was concluded with a short spin at 40 miles per hour. Immediately the pressure in the tires was measured and found to be exactly 84 pounds—a rise of only 4 pounds, which is not sufficient to justify under-inflation to any extent.

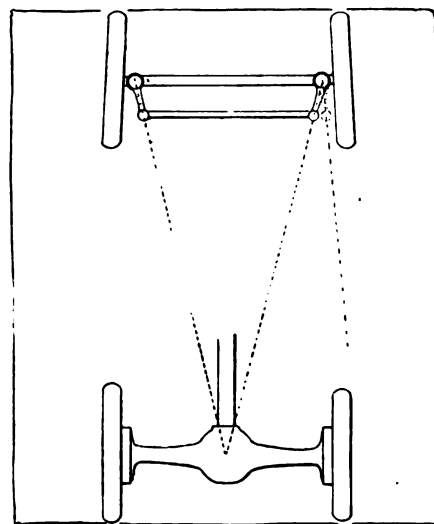


Fig. 2—Ackerman steering principle

TESTS SHOWING POWER INCREASE BY FITTING PROPER MUFFLER

Engine r. p. m.	Test No. 1 With standard muffler.	Test No. 2 Without muffler or exhaust pipe.	Test No. 3 With exhaust pipe only	Test No. 4 With standard muffler modified.
	h.p.	h.p.	h.p.	h.p.
500	14	14¼	14¼	14¼
750	22½	23½	23½	23½
1,000	28½	30¼	30¼	30¼
1,250	33¼	36½	37¼	36¾
1,500	36	40½	42	41
1,750	36¾	41¾	44½	42

Dealer's Legal Status

Dealer or Garageman May Be Held Responsible for Repair
Work which Proves Defective and Causes Injuries—
Parts Must Be Properly Tested

By George F. Kaiser

JUDGE WOODWARD recently rendered an opinion in a case decided in the Supreme Court, Appellate Division, Third Department, New York, which seems likely to attract even more attention than the decision in the famous "Broken Wheel Cases."

He held that a manufacturer of automobiles who constructs a hand brake of inferior materials, and who assembles the parts of the car in an improper manner, is responsible in damages to a person who purchases the car through the manufacturer's agent, because of injuries which are caused to the car by the defective equipment and negligent assembling.

As the same proposition of law would hold good if a motor car were being rebuilt or repaired by a dealer, this case should be carefully read by all dealers.

It appeared that the man purchased a touring car, which subsequently was injured to the extent of \$250 because of the failure of the manufacturer to equip the car with proper brakes and its negligence in not properly assembling the car.

While the owner was driving on a country road the car suddenly became uncontrollable because of these defects and ran over an embankment and was damaged.

The question submitted to the court was: "Is the manufacturer of an automobile liable for injuries received by the purchaser thereof, owing to the fact that a brake band, constructed of inferior material, gave out or collapsed under ordinary use? Also, owing to the fact that said car was improperly assembled by said manufacturer, although the vehicle was not purchased directly from the manufacturer but from an agent to whom it was sold?"

Judge Woodward held:

"A modern automobile, properly equipped with brakes and assembled in harmony with the plans outlined in its construction, is not inherently a dangerous machine. In the hands of a reasonably intelligent and careful operator it involves no greater hazards to the public than a team of horses attached to a wagon. But this theoretically safe machine becomes inher-

ently unsafe when it is improperly assembled, or when the brakes are constructed of materials which will not stand the necessary strain upon them. Such an automobile designed for use upon the highways is a menace to the safety of the public and it involves the duty upon the manufacturer to use proper materials and to use due care in the assembling of such materials in the completed machine, and the character of the injuries resulting from defective materials and construction has nothing to do with the question of the manufacturer's duty."

It was held, therefore, that in a case of this kind the manufacturer is not liable only for injuries to persons who might have been riding in the car at the time of the accident, but must also pay whatever damages were sustained by reason of injuries to the car itself, as a manufacturer has no more right to send out a car with a brake which was not properly tested than he had to send out a car with a wheel which is not up to the standard. This holds true even though the motor car may be purchased from the manufacturer's agent and not directly from the manufacturer.

In this particular car the manufacturer had made a warranty as regards the quality of workmanship and materials under which the purchaser of the car would have been entitled to have the defective brake materials replaced for proper ones if the defect had been discovered before an accident resulted. (Quackenbush vs. Blank Motor Co., 153 N. Y. S. 131.)

Owner Must Pay for Damages by Chauffeur

Driver Acts as Owner's Servant and
Owner is Responsible

In a late New Jersey case it was decided that when a motor car owner hires a chauffeur to go to another town and bring back his machine, he will be held responsible for any injuries sustained by people through the negligence of the chauffeur.

The car owner had a motor car in Trenton. He hired a chauffeur to go to Trenton and drive from there to Passaic. While on the way the motor car collided with a sleigh and injured a man who brought suit against the owner, on the theory that the chauffeur was acting as his servant.

The car owner claimed that the chauffeur was an independent contractor; that if anyone were responsible it was the chauffeur.

The court thought differently, however, and held the owner responsible in damages for the injuries. (Warne vs. Moore, 94 Atlantic, 307).

Collected Insurance on Car That Was Loaned

Owner Awarded Full Amount Because
of Clause in Policy

A Kentucky dealer recently was successful in an action for damages to his car which he brought against an insurance company. He had a policy of insurance on a new roadster in the sum of \$1,500. A former employer requested the loan of the car and stated that he would return it. Instead of bringing it back he went on into the State of Missouri, where it was found six or seven weeks later in a badly battered and damaged condition.

The dealer sought to recover the loss of the value of the car from the insurance company. The court held that he could do it, and rendered judgment in his favor, as there was a clause in the policy which insured the dealer "against loss or damage if amounting to \$25 or more on any single occasion." (Federal Insurance Co. vs. Hiter, 176 S. W. 210.)

Trial Court Ruling on Garage Title Supreme

Judgment Rendered Against Owner Up-
held Under Appeal

In a recent Indiana case, where a supply company sued a garageman, it was held that when a trial court decides that the evidence shows that title to a garage, for which the supplies were furnished is in a certain person, the higher court will not pass on that point.

This suit was started to recover about \$225 for supplies shipped and charged to the "Auto Inn" at Noblesville, Ind.

Judgment was rendered against a person who it was claimed owned the garage, and when she appealed to a higher court it held that judgment handed down against her had been properly rendered. (McKinzie vs. Fisher Gibson Co., 108 N. E. (Indiana) 867.)

Repairing and Adjusting

Various Axle Hums Defined

The adjustment of axle gears can best be determined by sitting in the rear seat and holding the hands over the ears (Fig. 1). Should the sound from the axle be a steady hum and not too loud the gears may safely be said to be adjusted properly. If, however, there is an occasional stress in the sound, that is, a steady hum interrupted with a rather loud note, the adjustment may be incorrect. It will be found in testing in this manner that the gears may sound well when the car is running at uniform speed, slow or fast, but that as soon as a pick-up is desired a stress in the sound will be heard. Then again the gears may sound well except when coasting, which is another ailment which may be corrected by adjustment. If after trying various adjustments, perhaps taking in the whole range, the gears still give a characteristic loud note at intervals, it may be that one or more teeth are broken or the gears are slightly out-of-round.

Methods of Case-Hardening

Case-hardening of iron or steel is a process which causes the metal to absorb a certain amount of carbon so that the resulting mass will have a hard coating or case while the interior remains soft. The process varies and a great variety of carbonaceous substances are used for introducing the carbon into the metal. Solids are used more extensively than either liquids or gases for this work and some of the more common substances are charcoal obtained from wood or bone, charred leather, a mixture of barium carbonate and charcoal in the proportions of 40 to 60 per cent respectively, powered bone, salt 10 per cent, charcoal 90 per cent, animal black, charcoal and potassium carbonate, potassium cyanide, etc.

The extent of the hardening, that is,

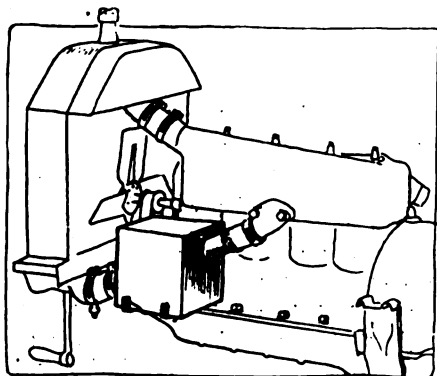


Fig. 2—Method of installing extra tank to aid in cooling of Ford

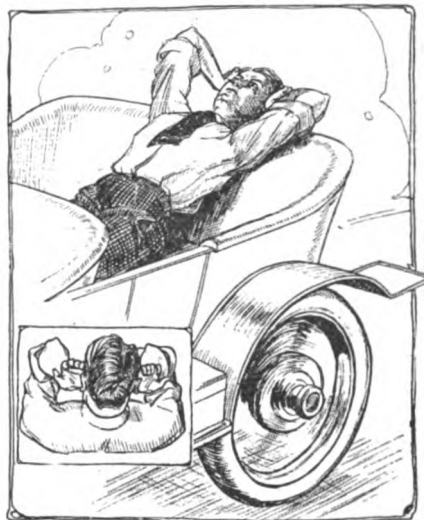


Fig. 1—Listening for rear axle hums; the hands are placed in front of the ears to intercept the sounds

the thickness of the case, will be dependent upon three things, namely: the temperature of the part to be hardened, the time the heated metal is in contact with the carbonaceous material and the kind of material used for producing the case. The usual case-hardening temperature is 1,650 degrees Fahr., but the higher the temperature the deeper will be the case. The article to be hardened is heated in a furnace and when a cherry red removed and imbedded in the hardening material. After removal it sometimes is customary to heat treat the case-hardened steel. This is done by reheating to about the same temperature or higher, if possible, and then quenching in water or oil. A second heating often is given but not as high as either of the others.

Any of the compounds above may be obtained at wholesale drug houses. It would not pay to buy of the retail druggist.

Washing Soda for Cleaning Radiators

Radiators can usually be cleaned by the use of ordinary washing soda dissolved in boiling water. To a water pail full of boiling water add a couple of double handfuls of washing soda, forming nearly a saturated solution. This is poured into the radiator and the motor run for a short time, possibly 3 or 4 minutes, to let the soda thoroughly reach all parts of the system. It is followed up by clear water, which rinses out the soda and the matter which is loosened by its cleansing action. If this is done quite frequently the radiator will be kept free of scale. It is not neces-

sary to remove the rubber hose connections in doing this.

Best Way To Attach Cylinder Head

There are many instances of careless tightening of heads and cylinder blocks which have resulted in cracking the casting due to drawing down one bolt or series of bolts too tightly before equalizing the strain by tightening others in another part of the casting.

The numbers on the diagram (Fig. 3) indicate the order in which bolts should be tightened. It will be seen that the center bolts are adjusted first, then the rest are tightened alternately going across the head from one side to the other so that the head will be held down firmly all around.

Tank Cured Heating Trouble

Ford overheating trouble was cured by one repairman by increasing the capacity of the cooling system by a couple of gallons. A tank (Fig. 2) was placed between the lower radiator connection and the inlet to the motor. The tank was provided with outlets at each end, and connections from them to motor and radiator were made by short lengths of rubber hose. The tank was supported by a bracket which was bolted to the crankcase flange.

How To Find Positive Wire

To determine which wire from a battery is positive, draw three-quarters of a tumblerful of electrolyte from the battery. Attach a strip of lead to each terminal of the charging line and place the two strips in the tumbler containing the solution (Fig. 4). The current should be switched on and in about 3 minutes the strips of lead should be examined. The one which is brown is attached to the positive side.

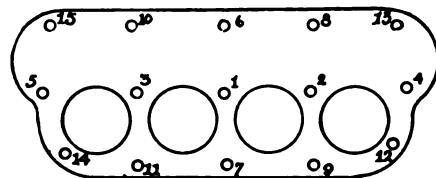


Fig. 3—Diagram showing order in which to tighten cylinder head nuts

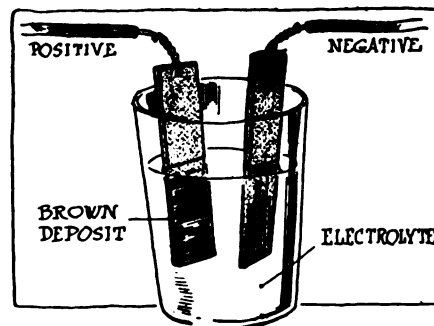


Fig. 4—Determining positive and negative wires by attaching them to lead plates in some electrolyte

WIDE-AWAKE MERCHANDISING

GRADUAL CHANGE IN SIGN IS BEST

Sudden Change Apt to Loosen Hold on Old Customers

When Casey & Smith are succeeded by Patrick Casey it isn't good business to tear down the old sign and stick up the name of Casey, especially if Casey & Smith have been in business long enough to acquire any clientele and goodwill. Make a new sign, but let it say:

**Patrick Casey
Successor to
CASEY & SMITH**

In a few months change the sign thus:

**PATRICK CASEY
Successor to
Casey & Smith**

Later the sign may safely be:

PATRICK CASEY

The sudden jump from one to the other jolts the public. It is like having your favorite chair at home moved. If done with one jump you issue orders and put it back. If the move is gradual you get used to it by degrees.

REAL SELLING

A customer had purchased a new casing and this is what the salesman in a Brooklyn store said while making out the cash slip:

"I would strongly advise that you use a new tube in that shoe, Mr. Blank. It is wise to do so because you will get better service; you will require a new tube shortly anyway and if you purchase it now and use it it will be better preserved in the new shoe than in your luggage carrier, where it may become chafed. Put the old tube in the luggage carrier and you won't feel so badly if it should come to harm, because it has already been repaired several times."

The customer bought the tube.

USES COURTESY CARD IN PROMOTION CAMPAIGN

Willard
STORAGE BATTERY

Our service to storage battery owners begins with the prevention of causes that might lead to battery troubles and hence to inefficient starting and lighting.

You are cordially invited to call at any time and get all the information our staff of battery experts can give you.

The courtesy card will enable you to have your battery inspected at any time free of charge.

And should you happen to be having it will assure you of the same service at any Willard Service Station.

Inspection by a qualified battery expert is an assurance of reliable starting and lighting.

And when you need repairs, recharging or renewals, you'll find complete facilities and men who know their business at the

Willard Storage Battery Co.
NEW YORK
228-230 West 58th Street

These cards are being distributed by the Willard Storage Battery Co., Cleveland, O., as a means of emphasizing Willard service

EFFECTIVE DISPLAY IN VERY SMALL WINDOW



One tire, a flag, a few ribbons and two cards drew attention to the window of the Yorkville Auto Supply Co., 1235 Lexington Ave., N. Y.

DEALER CARAVAN SOLD MANY CARS

Tour Among His Subdealers Cleaned Out Stock

F. L. Caulkins, proprietor of Caulkins Garage in Middletown, Conn., and Chalmers, Stutz, Buick and Saxon dealer, believes in keeping closely in touch with his subdealers. He makes the rounds at least once a month and during the busier season he visits all his agents once a week.

Along about the tail end of the last selling season he became convinced that the subdealers were not putting forth all their efforts to dispose of what cars he and they had and were holding off a little in anticipation of the arrival of the new models.

Train of Five Cars

So he took one car of each Chalmers model in stock—there were four of them—put a driver in each one, got into another car himself, and started on the rounds of his agents.

But first he used big space in the local newspaper in each town he expected to visit, telling that he would arrive on a certain day and that he would exhibit the entire Chalmers line for two days only in that town.

Then he started on his rounds. In each town he had his subdealer provide a showroom and the full line was put on display. In the meantime, the subdealer had been instructed to line up all the prospects in town and have them visit the display. This was the routine followed out with every one of his eight subdealers.

The Plan Worked

The scheme worked. The prospects came and saw the cars. They were newer and shinier than the subdealer's demonstrator in a great many cases. The presence of the real head of the organization also carried weight with the prospects. And the result was that Caulkins made a clean-up. In a little over two weeks he sold out every Chalmers he had in the place and could have sold more besides.

Railroad Service

When the Car Owner Asks Excessive Service Tell Him This Story

By Robert Foster

When I travel from Chicago to New York on the Twentieth Century I buy a ticket. For it I pay 2 cents a mile, and in addition to that I pay \$8 because the train makes the run in 20 hours. I pay \$1 for every hour less than 28 hours that it takes for the trip.

In addition to my fare and the excess fare I pay \$5 for a berth. The porter takes care of my berth, brushes my clothes, shines my shoes, and for this I tip him; if I am affluent I may give him any sum, but I would not give him less than a quarter for his careful attention to me and my comfort.

Dining Costs Money

When I am hungry I eat in the train's dining car and pay a rather high price for my food. The prices are higher than I would pay were I not on the railroad. And I tip the waiter generally a quarter because he is very attentive, keeps my water glass full, lifts and moves every dish for me, keeps the table clean, pours my coffee, takes care of my hat, moves my chair and makes things pleasant. If he has a newspaper he lets me read it.

After dinner I go to the club car to smoke. If I want a cocktail or a cigar the waiter brings it to me, and in addition to paying a good price for it I tip him not less than a dime. When I want to retire he turns on my light, pats my pillow and makes me comfortable, all of which brings him his reward in the morning. He calls me at the hour I request, brushes my clothes, moves my grip to the platform and is attentive until I step to the station platform. Then, if my grip is heavy, a red cap will carry it for me; theoretically his services are free, but I give him from a dime to a quarter, according to his service and my disposition.

Service Must Be Prompt

For what I pay for I expect prompt service. The dining car conductor must meet me and seat me in the diner. The porter must be prompt to meet and almost anticipate my needs. The club car steward must keep the floor brushed around my feet if my ashes miss the receptacle. The pen and writing paper must be handy if I want to write a letter, and if I post it in the car he must put it off at the first available station. The club car has free magazines for me to read.

If the train does not make the advertised 20 hours I expect and receive \$1

for every hour the train is late. Service on this train means to me speed, courtesy, promptness and things when I want them and as I want them, but for everything that costs the company money I pay money, and for the excellence of service I also pay.

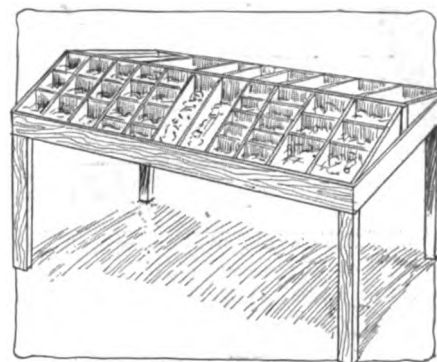
Why?

Why when I buy a car should I expect the dealer or garageman to make free repairs, give me small parts for nothing, wash or clean my car without charge, make adjustments at his own expense—for he has to pay his employees—and do anything except be courteous, prompt, reliable and on-the-job? If I am the average car owner I do expect this excessive service, but why should I?

BARGAINS FOR FORD OWNERS

A Ford accessory table, where everything has the price marked on it and the customers can help themselves, is a great money maker in the opinion of A. J. Fishbaugh, of the Motor Supply & Tire Co., Columbus, O.

Usually a customer will start at one corner and go right around it, picking up things that he wants as he goes. There are many articles that he never would think of buying if they were not



Bargain table for Ford owners

set out before him in this fashion. For example, there is a leather crank holder which retails for 25 cents; few owners would ever think of purchasing one of these, it is such a trifle. But when a man sees one on the counter he realizes that it is a good thing for his car, that it will keep the crank handle clean and prevent it from rattling, and without further cogitation reaches out and picks it up.

The table is a simple affair with compartments of different sizes, there being small ones at one end and large ones at the other. It costs little to make and will pay for itself in a very short time.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith and this will be followed by others which have been especially designed for the purpose of assisting the dealer in bringing his merchandise to the attention of possible purchasers. Manufacturers who supply these devices are urged to forward photographs or sketches of them.

This silent salesman is furnished free by the Hawthorne Mfg. Co., Bridgeport, Conn., with orders for more than one spot light. This enables the customer to swivel the light around the store and do just "monkeying" enough with it to make him want one.

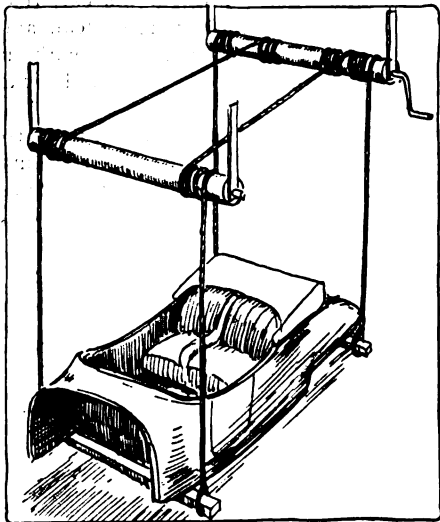


REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Hoist for Raising Car Bodies (No. 129)

A hoist for raising a body in the minimum time is illustrated. The body is supported by the hoist until the overhauling is completed, when the chassis is rolled back under and the body lowered in place again. The hoist consists of two 4-inch metal rollers about 5 feet long, one for raising the front of the body and the other the rear. These are suitably supported in a wood frame and are placed about 10 feet apart. The



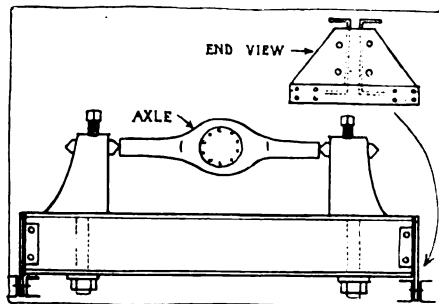
(No. 129)

Turning one crank lifts all four corners of the car body at the same time

hoisting is done by a large crank attached to one of the rollers. All four ropes are wound around this sheave, and two of them run to the other sheave which is merely used as an idler. Seven-eighths hemp rope is used. The body may be attached to the ropes by either fitting hooks to the rope ends or looping the ends of the ropes and using two cross bars under the body, as illustrated.—O. Osborne, Cosgrove & Osborne, Zanesville, O.

Accelerator Slip Connection (No. 130)

In installing an accelerator pedal it is often difficult to devise a suitable slip connection between the hand throttle lever and the throttle so that the pedal may be operated independently. What seems to be the simplest possible connection for this purpose and one that requires only the simplest tools to make is here shown. It is merely two pieces of 3/16 wire with a loop at right angles in each piece so that the other piece may slip through it. When the hand throttle lever is moved, the two pieces A and B are drawn together and the throttle is opened. But when the accelerator pedal is moved the piece B attached to the



(No. 131)

Straightening device which takes rear axle housings between its adjustable centers

hand throttle remains stationary and the member A attached to the throttle slides up on it.—Clyde Ward, foreman, Frank P. Beck, Marion, O.

For Straightening Rear Axles (No. 131)

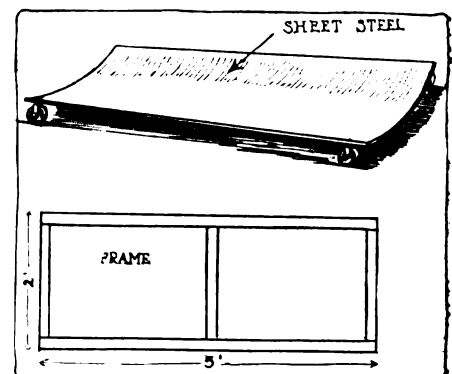
A device for straightening rear axle housings is shown herewith. The housing is placed between the centers and then pressure at any required point may be applied with a jack. The bed of the instrument is made of channel sections of various sizes and the tail stocks are cast iron.

The main members are two 12-inch channels placed back to back and with enough space between to allow the tail stock bolts to go through. They are held together by means of two end plates each of which is bolted to the channels through the use of 1 1/2-inch angles. These end plates are stiffened at their lower ends by two 3-inch channels placed back to back, one on each side of the plate; the 3-inch channels also give a firm support to the device and raise the main channels far enough from the floor

to allow clearance for the tail stock. To allow for different lengths of axles the tail stocks are adjustable and may be moved lengthwise when the tail stock bolts are loosened. The centers are about 3 inches in diameter and are locked in position by 3/4-inch set screws.—Harmon Wirebaugh, A. H. Wilson Motor Car Co., Canton, O.

Indestructible Steel Creeper (No. 132)

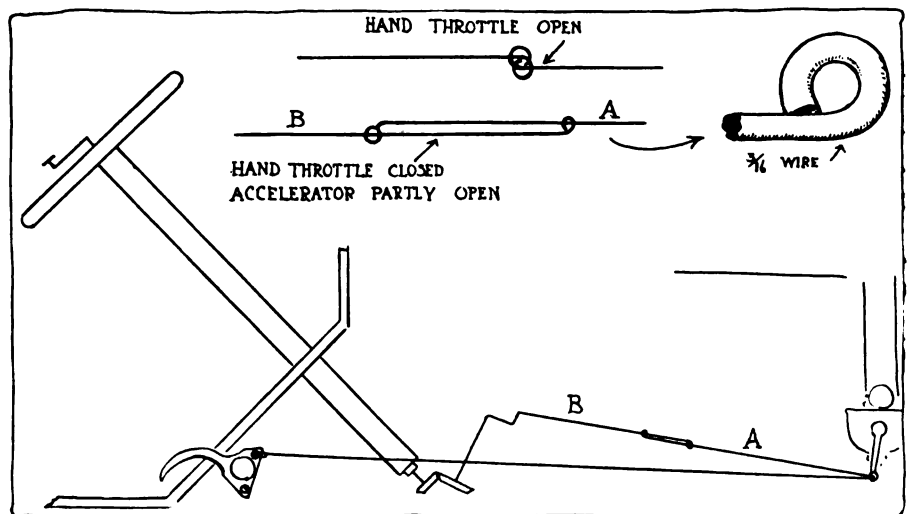
An all metal creeper that is practically indestructible has a frame made of 1/4 by 2-inch steel stock and is covered with No. 28 gauge sheet tin. It is so strong that it cannot be harmed by a car running over it for it merely gives under the weight and springs back into shape



(No. 132)

Convenient creeper with steel framing and tin covering. It is most substantial

as soon as the load is removed. The tin provides a very smooth and comfortable support for the mechanic's back and in this respect is preferable to the creeper with slatted top. Substantial casters are



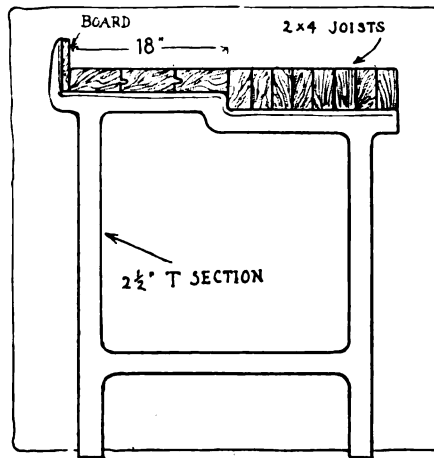
(No. 130)

A simple slip joint for making accelerator pedal connection with the throttle is made of two pieces of 3/16 wire sliding upon each other as shown

fitted so that the worker may adjust his position without removing his weight from it.—Wm. S. Fox, Stouder's Garage, Zanesville, O.

Strong Bench for Heavy Work (No. 133)

An unusually substantial form of work bench that is not of particularly expensive construction is here illustrated. The legs of the bench are cast iron and made especially for the purpose. The top of the bench is of very heavy construction. It is 36 inches wide, the front half is surfaced with 2 x 4 joists laid on edge, and the rear half with tongued and grooved 2 x 6 stock. There is also a retaining board at the rear which prevents parts being knocked off.—Monnot & Sacher, Canton, O.

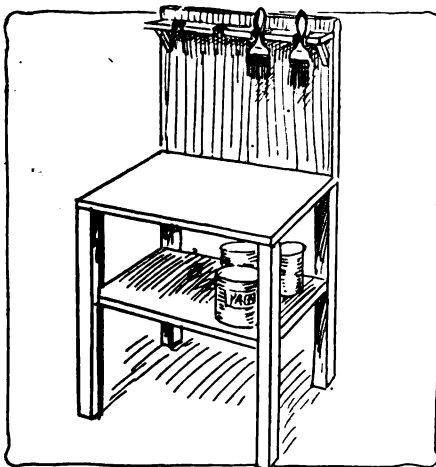


(No. 133)

This heavy work bench has cast iron legs and the front is of edge-set planks

Handy Stand for Painting Jobs (No. 134)

For painting jobs a small stand of the kind illustrated will save time. This can be easily made. The lower shelf can be



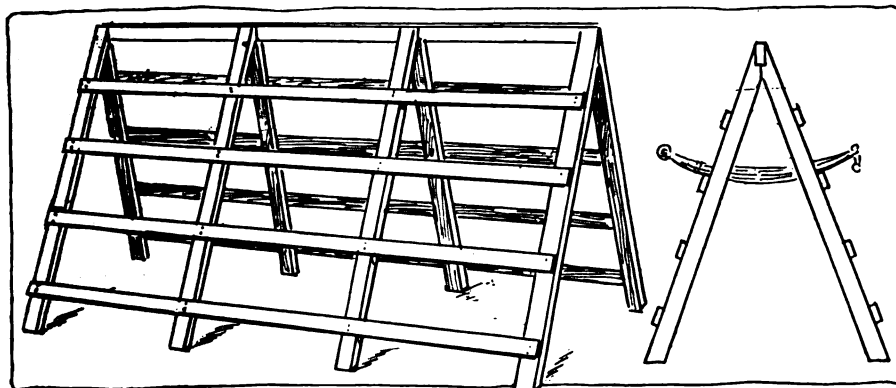
(No. 134)

Stand for carrying paint cans, brushes and other things for painting jobs

used for paint cans and small jobs can be put on the upper shelf while being painted. The small shelf on the board at the back serves to hold the brushes should the workman be called away temporarily.—Turrell's Garage, Waterbury, Conn.

Stock Room Rack for Springs (No. 135)

For storing leaf springs an inverted V-shaped rack will be found a great



(No. 135)

When springs are stored in this rack any spring can be reached at once without having to move any other spring. It makes a good display rack for the salesroom

convenience either in the stock room or the accessory store. It makes the springs accessible—no spring need be moved to get at any other, it takes up very little space, cost little to make and is an effective display when placed in the accessory store. The V-members are 2 x 4 stock and the cross pieces are 1 x 2.—Wm. Sickinger, Morgan & Williams, Warren, O.

Easily Made Traveling Crane (No. 136)

A very simple form of traveling crane is here shown. Its cost is small, as it is constructed of odds and ends, the main parts being an old hay fork carrier, some 2-inch angle iron and a chain hoist. The carrier is used to support the chain hoist and the angle iron, suitably suspended from the ceiling, forms a track for the carrier to run on. The construction is so evident that it is hardly necessary to add any explanation. Two angles are 2 x 2 inches, and are bolted back to back. The track is suspended from a heavy ceiling beam by a 5/8-inch support about every 2 feet.

A hay fork carrier can be obtained from any farm machinery house or one may be very simply constructed.

A variation of this construction is to use the lower flange of an I-beam for a track instead of the two angles placed back to back.

The advantages of such a crane are many. It may be used for supporting the front or rear of a car while the axle is pulled out, to raise the front while the motor bearings are taken up,

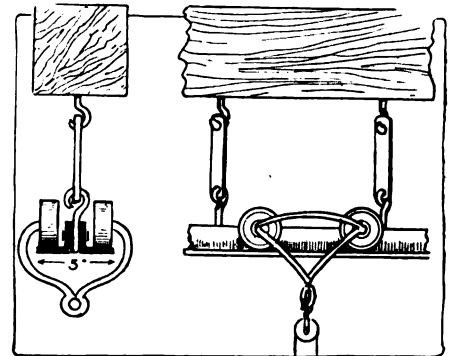
or to lift out the motor or other heavy parts and for many other jobs.—Central Automobile Co., Canton, O.

Pumping Gasoline from Inside (No. 137)

When it does not seem advisable to install a curb pump in addition to the regular pump, the latter can be made to take the place of the former quite well by running a connection from the regular pump out to the curb and terminating it by the usual length of rubber hose and shut off valve. This idea is of especial advantage in winter because the garageman can sell gasoline without leaving the warm garage.—Wm. Folberth, Folberth Auto Specialty Co., Cleveland, O.

Taking Up Bearing End Wear (No. 138)

Usually when a main bearing becomes worn on its ends, allowing an objectionable amount of end play in the crankshaft, it is thrown away and a new one substituted. A better way is to rivet a bronze plate about 3/16 inch to one end and machine it to fit. These plates



(No. 136)

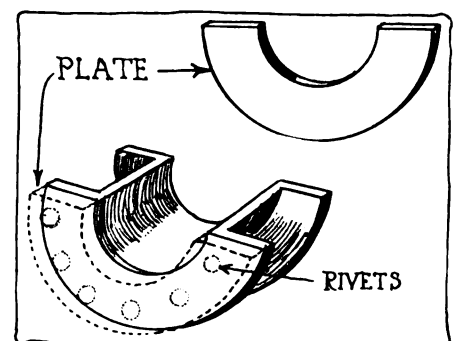
Traveling crane made of an old hay fork carrier and other odds and ends of material

are cast and it is well to have several made up at one time.

After the plate is riveted in place it is machined until its added thickness is just sufficient to compensate for the play. The time usually required for this job is 30 minutes.—Harmon Wirebaugh, A. H. Wilson Motor Car Co., Canton, O.

He Cleaned Up

Page 5



(No. 138)

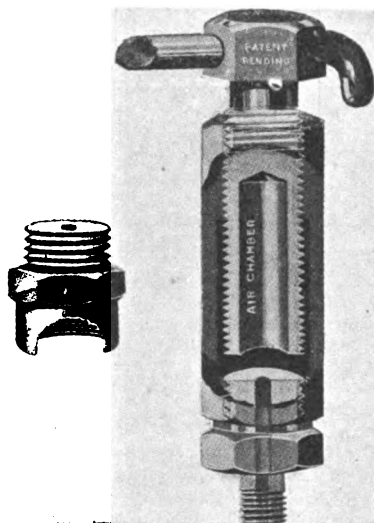
Metal worn from the ends of main bearings is replaced by riveting on plates



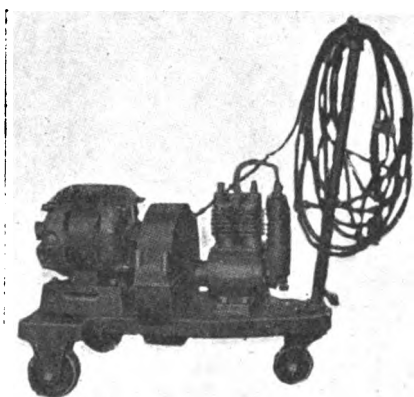
ACCESSORIES & SUPPLIES :

Strickler's High-Pressure Grease Gun

A grease gun designed to force grease through obstructed places with heavy pressure is the Strickler, sold by the Powers Sales Co., 122 South Michigan boulevard, Chicago. It is of extremely heavy construction throughout, the barrel being of hexagonal steel threaded for a plunger, also of steel, with an air chamber. The outer end of the plunger has a hexagon head, to which a wrench can be applied, and a hole for a bar. The lower end of the barrel is threaded for nozzles which, in turn, are threaded to go into grease cup tapped holes; nozzles are made in all standard



With the Strickler gun grease is forced through bearings under high pressure



Master power-driven garage air compressor on truck with electric motor

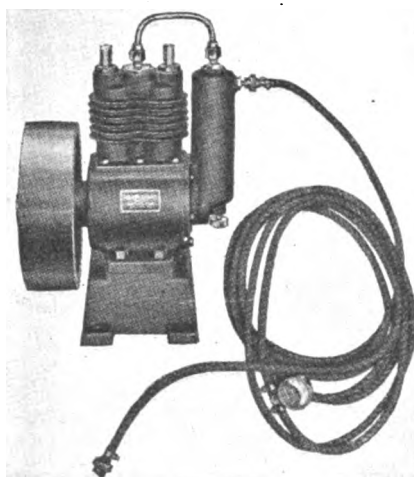
sizes, with both internal and external threads.

In using the gun the nozzle is screwed into the place of the grease cup and the plunger screwed down by hand until the grease is forced through the bearing. If grease cannot be forced through in this way pressure is applied with a bar or wrench and the bearing moved at the same time to facilitate the passage of grease. The makers state that a pressure of 900 pounds can be attained.

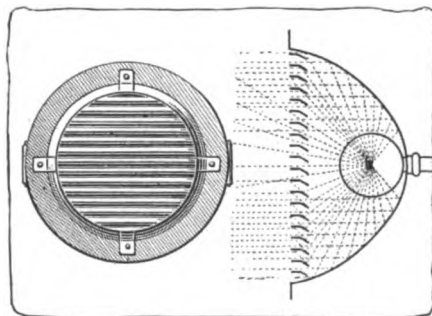
Price, \$1.50.

Master Power-Driven Garage Pumps

The Master garage air pump is built by the Hartford Machine Screw Co., Hartford, Conn., in two types, one designed for belt drive where there is a line shaft and the other for electric motor drive. In both cases the pump proper is the same, having two cylinders, $1\frac{3}{4} \times 2$, and steel pistons hardened, ground and lapped into the cylinders, where they run without rings of any



Master two-cylinder garage air compressor mounted on base for belt drive



Up-thrown rays are intercepted by the horizontal slats of the Adherent device

kind. The close fit of the pistons is designed to prevent an excess of oil working up and getting into the dis-

charged air, but as an extra precaution a separator is mounted on the pump to clarify the air entirely. A belt pulley is mounted on the shaft and the pump is mounted on a base casting. The weight is 65 pounds. The outfit furnished includes an air gauge, 20 feet of heavy wire-wound air hose and a small nozzle to be used in blowing dust out of inaccessible corners in upholstery or body-work.

The motor-driven pump is mounted on a small castor truck and is geared to an electric motor, which may be had wound for any current. Price, for belt



Warren motor restaurant with utensils and food containers for five persons

drive, \$40; electric type, with A. C. motor, \$105; with D. C. motor, \$100.

Warren "Motor Restaurants"

While the Warren Leather Goods Co., Worcester, Mass., manufactures an extensive line of what they term "motor restaurants"—that is, cases containing all the essentials for a meal except the edibles—they state that the most popular type is the one designed for five persons; it is illustrated herewith. It is made in suit case style, a wood box being covered with black enameled duck and lined with black and white striped enameled cloth; a strong carrying handle is provided and there are brass fittings, lock, leather corner pieces, and so on. The case contains two food cases, of nickel plated metal, each $8\frac{3}{4} \times 5\frac{3}{4} \times 4\frac{1}{4}$, knives, forks, spoons, cups and plates for five persons, two glass jars and a place for a quart vacuum bottle—which is not supplied. The case is $19\frac{1}{2}$ inches long, 14 inches wide and 6 inches deep. Price, \$17.

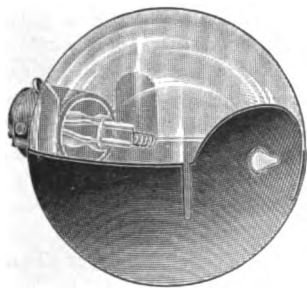
Adherente Non-blinding Device

The Adherente Non-blinding Device Co., 312 Central avenue, Jersey City, N. J., has an attachment for the headlight which is designed to prevent the reflection of light in an upward direction. It consists of a set of horizontal strips of metal set, like a shutter, across the lamp lens; the surfaces are so curved that light is thrown downward, but its intensity is not diminished. From almost any position, except directly in front of the lamp, the light and reflector are hidden by the cross bars. The device is attached to the inside of the door and requires no adjusting once it has been placed. The clips that hold the glass hold the device.

Price, \$3.50 per pair.

General Electric Small Rectifier

The General Electric Co., Schenectady, N. Y., has developed a mercury arc rectifier of small size that is especially adapted for ignition and starting-lighting batteries and other service where direct current of 5 amperes at 15 volts is required. The rectifier will charge one 3-cell battery, two 3-cell batteries or one



The Lennon light protector covers the bottom of the electric bulb of the headlight

6-cell battery, as required, and is self-adjusting.

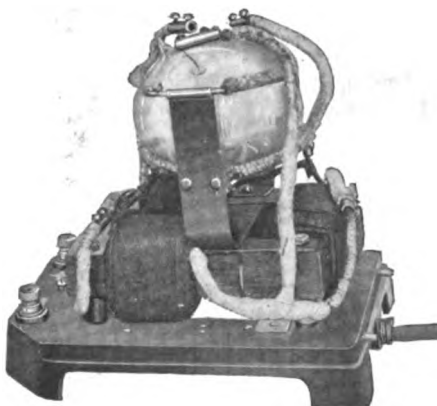
The rectifier can be furnished for 25, 30, 40, 50 or 60 cycles, 110-volt a. c. circuits. Its outside dimensions are $6\frac{1}{2}$ inches wide, $9\frac{1}{2}$ inches deep and 11 inches high. The 60-cycle model weighs but 15 pounds. A metal base carries the resistance coils and rectifier tube, the whole being encased in a perforated sheet metal casing.

To start, the plug is screwed into the nearest lamp socket from which the proper current can be obtained. The socket switch is closed and the rectifier tipped to start it. No further attention is needed.

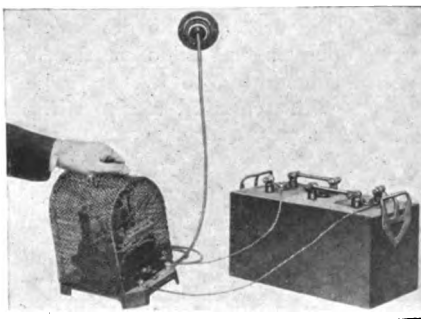
The makers state that the cost of charging a 12-volt (6-cell) or two 6-volt (two 3-cell) batteries for a 10-hour charge is about 13 cents and the same for a single 6-volt battery. This is based on a rate of 10 cents per kw.-hr. for current.

Lennon Light Protector

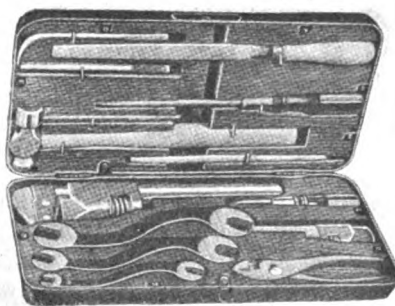
A device which prevents light from headlights from being reflected upward



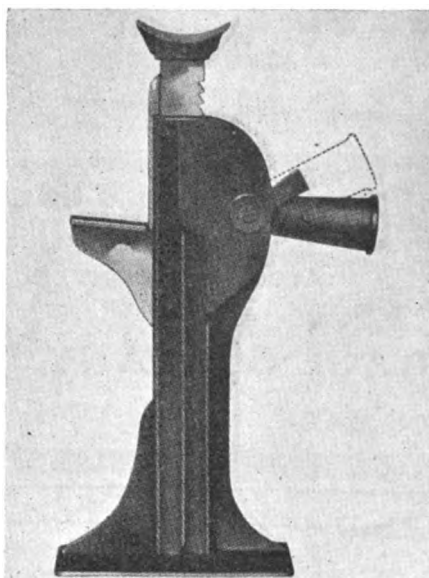
General Electric small rectifier



G. E. mercury arc rectifier



Becco motor car tool set



Jiffy jack, limousine model, with safety drop

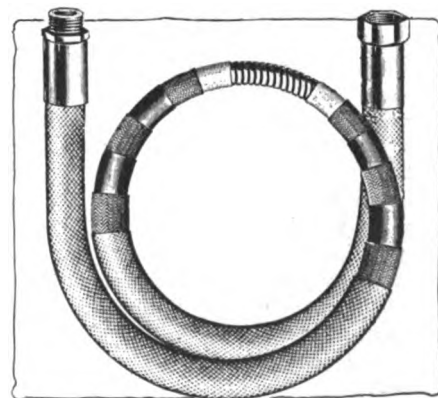
while permitting it to fall undimmed on the road, is the Lennon light protector, produced by the Lennon Mfg. Co., Wilimantic, Conn.

It consists of a shield of nickel plated spring brass which is slipped over the bulb and covers the lower half. The light is thrown on the upper part of the reflector and from the reflector thrown down on the road.

Price, \$1 per pair.

Becco Motor Car Tool Set

A steel tool-case, with wood forms lined with felt and fitted with a handy selection of good tools is offered by the Michigan Motor Specialties Co., Detroit. Each tool is held in place by a catch. The case is 15 inches long, 8 inches wide and 2 inches thick, and is finished in black enamel. The tools are as follows: Punch, cold chisel, cotter-pin remover, round file, flat file, file handle, large screw driver, small screw driver, hammer, large monkey wrench, small monkey wrench, three double-ended S-



No rubber is employed in the construction of the Everlasting gasoline hose

wrenches and a pair of combination pliers.

Price, \$7.75.

Limousine Type Jiffy Jack

Ralph Walcott, 1790 Broadway, New York, is offering a line of Jiffy jacks manufactured by the Jiffy Jack Co., Cleveland, one of the latest of which is the limousine type illustrated herewith. This jack has a normal lifting capacity of 5,000 pounds. Height to top, lowered, 12 inches; to step, 7 inches; to top, raised, 19½ inches; to step, 14½ inches. The mechanism is of the rack type; the rack is built up of laminated steel; pawls are drop-forged with machined tips, heat treated; pawl controlling parts are of case-hardened machine steel, and the pawl spring is of rust-proofed steel. The rack drops automatically when the load is removed. Weight, 9 pounds. Furnished with wood handle.

Price, \$3.50; dealers, \$2.33.

Chicago Flexible Metal Tubing

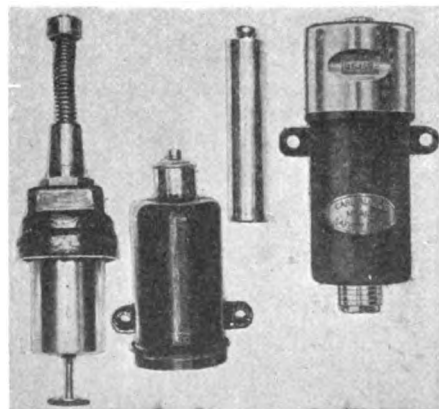
The Chicago Tubing & Braiding Co., 216-14 Clinton street, Chicago, which

specializes in plumbers' supplies and rubber and metallic tubing, manufactures several styles of flexible metallic tubing designed for motor car service. A comparatively new product is the Everlasting gasoline hose, which is built up of 8 layers. The inner lining is of flexible steel, over which is a layer of fiber, then a layer of braid, one of a special gasoline-resisting composition, another braid, then a second gasoline-proof coating, a third braid and finally the waterproof outer jacket, which is woven on. No rubber is used. Other products include hot air hose for carburetor connections, oil, air and steam tubing, acetylene tubing and connectors.

Autoprotector for Cars and Trucks

The autoprotector, made by the Autoprotector Co., Dorchester, Mass., is an instrument to be mounted on the front axle of a car or truck and connected with the throttle, the air supply or the ignition system in such a way that if the car is driven too rapidly over rough roads the car will be slowed down or even temporarily stopped. The device is adjustable as to the severity of the conditions under which it will commence to act and can be sealed so that the driver cannot tamper with the adjustment.

The autoprotector has, enclosed in a casing, a weight which is held in normal position by a spring but which is displaced by sudden shocks and is prevented from returning immediately to its normal position by a dashpot, the piston rod and piston being attached to the bottom of the weight. The weight is connected to the Bowden wire which acts on the throttle, air supply of ignition. A succession of shocks will tend to keep the weight out of its normal position and the speed of the motor will be affected in proportion to the amount of displacement of the weight. A counter attached to the device shows the number of abnormally severe shocks experienced,



The Autoprotector, assembled, shown at right

and this acts as an additional check on the driver. The device commences operating as soon as the first shock is transmitted to it.

Price, with counter, \$25; without counter, \$18.

Allison Garage Coupon Books

The Allison Coupon Co., Market and Liberty street, Indianapolis, long has made a specialty of supplying books and



Stevens' Safety First radiator signal

coupons of the type that is becoming increasing popular with car dealers and garagemen. The coupons are uniform in size and are bound into a book of vest pocket size. Two styles are supplied, one with the coupons representing gallons of gasoline and the other with

each coupon representing cents in merchandise. The former is supplied for any number of gallons from 10 to 100 and the latter representing from \$1 to \$20, with the coupons ranging in value from either 1 cent or 5 cents to \$1. Each denomination coupon is printed on a different color stock. The books are supplied at the following prices:

Five hundred books, assorted, \$12; 1,000 books, assorted, \$20; 2,000 books, \$17.50 per 1,000; 3,000 books, \$16 per 1,000; 5,000 books, \$14 per 1,000; 10,000 books, \$12 per 1,000.

Serco Steering Wheel Horn Buttons

The Safety Electric Rim Co., Middletown, O., is marketing a steering wheel rim in which are eight buttons for sounding the electric horn, the buttons being spaced around the wheel so that there is always one within easy reach. Spring contact buttons are used, in composition casings, and the wire is sunk in a slot, 3/16-inch deep, in the rim, the slot being filled with wood over the wire.

Price, \$5 and \$6.

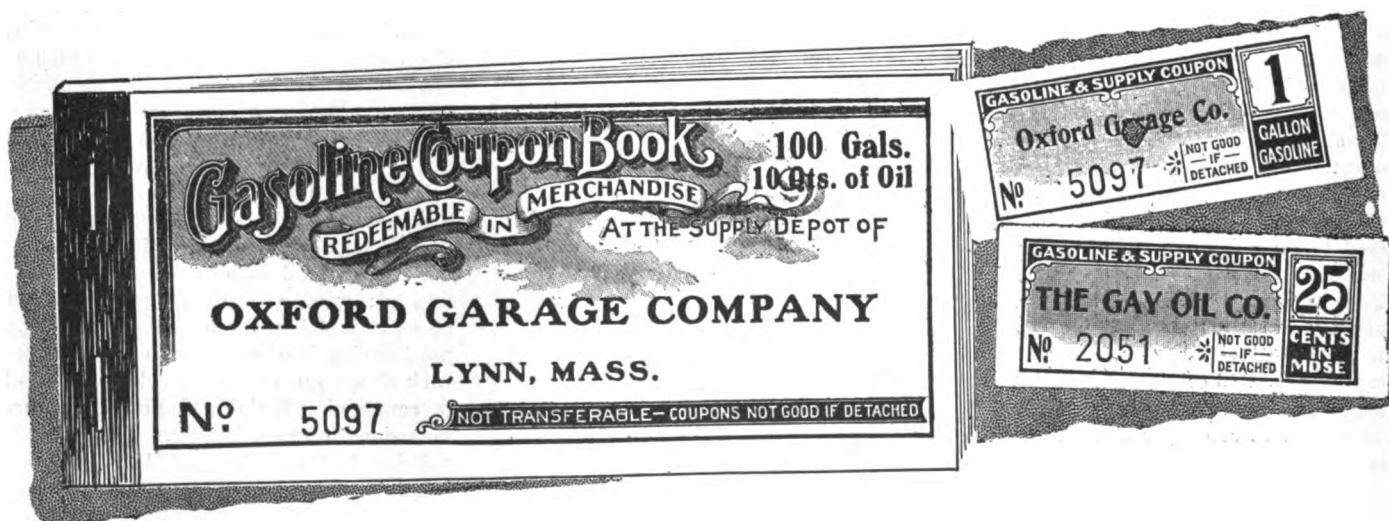
Stevens Safety First Emblem

To help keep in the driver's mind the Safety First idea, Stevens & Co., New York, has placed on the market a neat radiator emblem, consisting of a radiator cap surmounted by a plate bearing the words "Safety First" in white letters on a green ground—the official colors of the Safety First Society.

Price, 75 cents.

Savannah Wants Larger Tanks

SAVANNAH, GA., July 26—It is probable a change in the city ordinance permitting the installation of underground gasoline tanks for private dwellings and retailers will be made by council in the near future. The present ordinance provides for underground tanks holding 100 gallons. The revision will be made to allow these tanks to be constructed so as to hold 110 gallons.



Coupons and coupon books supplied by the Allison company. One style of coupon is used for obtaining oil and gasoline and the other is used in lieu of cash in payment for merchandise. Books are of convenient pocket size

Business Booming on the Coast

Los Angeles Dealers Report 117½% Increase

LOS ANGELES, CAL., July 29—An increase of 117½ per cent in the volume of business done from January 1 to July 15 of this year over the same period of 1914 is reported by the motor car dealers of Los Angeles. The minimum increase of the Los Angeles dealer is slightly under 5 per cent. The maximum increase for the period is 538 per cent.

In estimating the increase in the volume of automobile business, 55 different makes, 46 of which are pleasure cars, were used as a basis for the figures. The nine commercial cars figured separately show an increase of 135¼ per cent, which proves the claim to prosperity made by practically all lines of wholesale and retail trade in southern California. But the gain in the sale of pleasure cars is of the greatest importance. This remarkable gain in pleasure car sales represents something like \$10,000,000 which has been turned into the banks of Los Angeles since January 1 through the motor car industry.

Tremendous Territory Controlled

The Los Angeles automobile dealers control most of the southern California and Arizona territory, with subagents representing them in the cities and larger suburban towns. Some of the local agencies control the entire California territory for their lines and certain factory branches located in this city are distributing stations for the entire states of California, Arizona and Nevada. But a large percentage of the business represented in the 117½ per cent increase is purely southern California prosperity.

Los Angeles county owns 33¾ per cent of the pleasure cars and commercial vehicles registered in the state of California. There is an increase of 4,758 cars in Los Angeles county for the first six months of 1915 over the first six months of 1914, which is a gain of 48 per cent. There are approximately 47,000 automobiles owned in Los Angeles county today.

In California, during the first six months of 1915, 137,500 cars were registered. This shows a gain for the entire state of almost 50 per cent.

There is not one county in southern California which has not gained from 30 to 80 per cent. Santa Barbara registered 1,486 cars during the first six months of 1914. For the same period of this year 2,146 owners are registered. Riverside's gain is 2,655 cars over 1,743 machines a year ago. San Diego has 6,212 registrations where there were but 4,700 in 1914. Orange county has gained 1,165 cars this year over last, which is

a high percentage. San Bernardino has 1,276 more cars than last year, and Ventura has increased her registrations from 1,201 July 1, 1914, to almost double that number today.

Arizona and Nevada Swell Total

Great increases in Arizona and Nevada have helped to bring the totals in the Los Angeles dealers' books up above the former high-water mark.

The Los Angeles Chevrolet branch sold more cars off the floor at retail last month than during the first six months of 1914. All last year just 80 Chevrolet cars were delivered in southern California. During the month of June, 1915, 65 Chevrolet models were sold at retail by the Los Angeles branch of the Pacific Coast agency. With 1,200 cars contracted for, 264 have been sold out of the local house during 1915, against 40 cars delivered during the same months of 1914.

The Overland shows an increase of 77 per cent over last year's business to July 15. J. W. Leavitt & Co., Overland distributor for the state, has a branch in Los Angeles which supplies the southern California territory south of Bakersfield to the San Diego county line. This does not include Imperial county. The local branch has sold and delivered 1,172 cars this year.

The Winton Motor Car Co. shows an increase of 50 per cent for the Los Angeles factory branch.

The Chandler agency shows an increase of 108 per cent, which represents \$225,000 in sales.

Gain of \$280,000

An increase of 37 per cent has been made by Don Lee, Cadillac and Paige dealer. This is a gain which is expressed as \$280,000 on the books of the agency.

A remarkable gain of 112 per cent is shown by the Lord Motor Car Co., Maxwell dealer, which has all of southern California and Arizona. Both the National and Oakland sales of Hawley, King & Co. have increased 35 per cent.

The Peerless and Premier being handled by the same firm, Smith Bros., the figures of the two makes are together and an increase of 81 cars for 1915 over the 1914 period gives a percentage of 98 in the increase column.

For the Bekins-Speers Motor Co., Haynes dealer, the gain has been 101 per cent.

The Beardsley Electric Co.'s books show a gain in sales of 60 per cent, and the Benrich Motor Co., Moline dealer, has a gain of 50 per cent.

The Apperson Motor Car Co. sold and delivered 54 cars in the period last year and up to July 15 of this year 151 cars had been sold. The Apperson's territory has just been increased to embrace the three states, California, Arizona and Nevada, and for the past 30 days the salesmen have been taking orders only, as no cars were to be had for delivery.

One of the chief difficulties of the Los Angeles automobile man is the scarcity of cars. The demand greatly exceeds the supply. On the sales floors of many of the largest houses in this city there is but one show car, and some dealers have sold even their show cars and demonstrators.

For some of the early season models owners have paid bonus prices, and for one car delivered among the first of the 1916 arrivals, \$350 was added to the original price as the dealer wished to retain the car for a demonstrator.

Unable to Fill the Demand

F. R. Cryiacks, Buick dealer, now has more than 800 orders on file and cars are coming through from the factory at Flint, Mich., in four, five and six carload lots every day or so, but the orders continue to roll in ahead of the deliveries.

The Cole Motor Co. shows an increase of 65 per cent, but the increase would have been greater had the agency been able to deliver the cars. Four carloads arrived here July 19 and there was but the one demonstrator at the agency the next afternoon. There is almost a motor car panic on in Los Angeles today.

Among the higher-priced cars, the increase in sales has not been as great as among the cars of lower prices. Nevertheless there is not an agency among those included in the report which does not show a gain in sales of cars and in volume of business.

Many dealers refuse to show their figures unless names are withheld. Their increases were figured in the estimates but they would not consent to have their increases published nor display their sales sheets showing the number of cars sold this season over last.

Used Cars Not Included

Used car sales do not figure in the 117½ per cent increase. Practically every sale of a used car means the delivery of a new car in this territory except where used cars are purchased for special purposes from the established second-hand dealers or the used car departments of the local agencies.

With only a small percentage of the 1916 models available for delivery at this time, the new twelves and eights coming on to fill orders placed weeks and months ago, the last half of the 1915 selling season in Los Angeles and southern California promises to eclipse even the first prosperous six months.



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He Cleaned Up!

The FIFTEENTH installment of Motor World's Campaign for Greater Profits.

HE cleaned up his garage—Now he is cleaning up the dollars. It is the climax of the story that Motor World has been telling week after week since the twenty-eighth day of April. Motor World has said many, many times—and will say it many, many times more—that more business, Greater Profits and a happier life will come to the man who will profit by the Campaign for Greater Profits.

E. R. Miller Has Found It True

Miller dubbed along in the rut in his Los Angeles garage for months. Then he accidentally stumbled onto the Campaign for Greater Profits. He saw something was wrong—and he righted it, as is told on page 5 this week.

He had been throwing Motor World into the waste basket unopened, because he bought it to get rid of a perhaps over-zealous salesman. Now he says it's "the best damned paper in the world," that he'll never be without it and that "the garageman who doesn't profit by its suggestions and stories deserves to starve to death."

That's putting it pretty strongly—but Miller when he gets emphatic talks that way.

It is wonderful what a little soap and water and paint can do. The result surprised Miller, as has been the case with every other garageman who has cleaned up and started to display his accessories and put his house in order.

Before Miller cleaned up he could get no financial rating at all. Now he has the standing of a business man and is rated. IF YOU HAVE NO RATING READ THIS MILLER STORY AND THEN SEE IF THE FAULT DOES NOT LIE INSIDE YOUR OWN GARAGE DOOR.

Psychology in Signs

WHAT the term "garage" means to the car owner was never more forcibly illustrated than through the experience of a supply dealer in a small town not far distant from New York. This man found from his own observations that when a tourist wanted anything from gasoline to spark plugs or tires, he watched for a "garage" sign. The term "garage" signified to him the beginning and the end of everything pertaining to his car; it represented service in the broadest sense of the word. If he wanted anything he NATURALLY went to a garage—any garage—to get it.

All of which makes very plain that the average garage is not living up to the expectations of the average motorist unless it has a stock of supplies. A garage is defined by modern authorities as "a place for the accommodation of motor cars." But does a garage accommodate a motorist when it finds it necessary to send him away to another store to obtain necessary supplies?

This particular accessory dealer who has been so clever as to see the value of a sign styling his place of business a garage, when in reality it is nothing of the sort may theoretically be guilty of practicing a deception. But he is getting the business, satisfying his customers, and, incidentally, his is one of the most forceful examples for the garageman of what Motor World has been advocating for the past three months in its Campaign for Greater Profits.

Insurance

THE fire hazard in the garage is accurately indicated by the insurance rate; and this should be a cause of great concern to the garageman, not because of the dollars paid in premiums but because of the chance of a serious fire and loss of customers.

At best, business after a fire is suspended entirely while the damage is repaired or new quarters are obtained, and then comes the nearly impossible task of winning back the trade of those who have lost confidence and those who have suffered financial loss.

Consequently, every garage building should be made as fireproof and fire-safe as possible. There should be fire extinguishers, sand and water everywhere about the building; there should be fire drills, and nothing should be overlooked to prevent a conflagration. This is the only insurance against loss of business, and it is of as much importance as the insurance against the loss of the building. Every dealer recognizes the value of the latter but few have taken the trouble fully to secure the former.

The RETAIL NEWS

MIDDLE WEST

H. W. Lancashire, who has the agency for the Dodge Bros. car, has leased for five years a three-story building at 1014 Madison avenue, Toledo. The first floor will be used as a sales and display room, offices and a service department. A repairshop will be on the second floor and the third floor will be used for storage.

The McNaul Tire Co., of Toledo, will open a branch in Los Angeles. Jasper R. Ford, who has been appointed Pacific coast representative for the McNaul tire, will be in charge.

Edwin Andres and Roy Danner, Madison, Ind., have opened a repairshop.

F. Walter and G. Putnam will open a garage at 120 South Broadway, Green Bay, Wis. A taxicab service will be operated.

Elmer A. Sauers, Elgin, Ill., agent for the Overland, has added an entire floor to his quarters, doubling his space. New equipment has been installed, including a large elevator, Bowser gasoline outfit, oil tanks, vulcanizing plant and other apparatus.

Lien & Behncke, Columbus, Wis., have dissolved partnership, Lien having bought out his partner. The repair business and the sale of accessories will be continued, but the sale of cars has been discontinued.

The Elyria Belting & Machinery Co., Elm street, Elyria, O., which recently purchased the repair parts of the Garford company, has added a line of accessories to its stock.

George Frietchen, 41 North Main street, Mansfield, O., is building a two-story garage, 40 x 94 feet, at 63-65 South Diamond street. He will handle accessories and probably will take the agency for a car.

The Pellston Garage, Pellston, Mich., has been purchased by R. W. Emerson.

R. E. Hall has retired from the Battle Creek Auto Sales Co. and his interest has been bought by Charles S. Meade.

R. T. Sprague will open a garage and repairshop in Fowlerville, Mich.

The Taylor Motor Co. has been organized in Des Moines, Ia., and will handle the Saxon. L. W. Taylor, who is at the head of the new company, has been western sales representative for the Saxon Motor Co. for the past year.

Robert Jones and Marion Deline are having a garage and salesroom erected in Morenci, Mich.

Peck Auto Sales Co., Studebaker dealer in Grand Rapids, Mich., has just completed and taken possession of a new service station.

The Reid Auto Co., Grand Rapids, Mich., has taken the agency for the Auburn. The company also handles the National.

Luther Reed and J. G. Kennedy have opened garages in Baldwin, Mich. The former has his quarters in the old Burnett shop and the latter is located next to the Libey stables.

The Buell Auto Co., Jackson, Mich., distributor for the Dodge, is to have a new two-story garage, 44 x 100 feet.

Roy Luce has opened a garage in the Oskaloose Building at 517 Whitney

street, Belvidere, Ill. The Oakland will be handled.

T. L. Thayer is contemplating the enlargement of his electric garage and service station at 174 South Wall street, Columbus, O. Thayer is local distributor for Exide batteries.

R. H. Fitch, Fort Wayne, Ind., will construct a one-story garage 65 x 175 feet at a cost of \$10,000.

The Grabill Realty Co., Grabill, Ind., has awarded the contract for a two-story 30 x 140-foot garage to cost \$7,000.

The Fischer Garage & Repairshop, Vermilion, O., has been formally opened. Buick and Dodge Bros. cars are handled.

The Central Realty Co., Milwaukee, Wis., will build a one-story garage 68 x 120 feet.

E. P. & W. G. Van De Plasche, Lisbon avenue, Milwaukee, will build a one-story 70 x 70 garage.

M. D. Coate, 1907 East Thirteenth street, Cleveland, is about to move to 6016 Euclid avenue in order to obtain more room for the handling of Paige cars. Coate has been branch manager for the Ford Motor Co. for six years.

The Cushman Auto Sales Co. has been formed in Battle Creek, Mich., to handle the Ford car. The members of the firm are Sommers Cushman, until recently with the Detroit branch of the Ford Motor Co., and Edward M. Bruce, of New York.

D. E. Dosie, Battle Creek, Mich., has purchased the garage business of the Battle Creek Auto Sales Co.

R. T. Cassell has given up the Overland agency in Jacksonville and it has been turned over to a new firm composed of C. N. Priest and J. F. Claus. The former has handled the Ford car for several years. The new firm will have a sales room at the Ford garage, although the new business will be kept entirely distinct from the Ford agency.

Ben H. Asher and A. L. Arnold have opened a garage and repairshop in Decatur, specializing upon the Ford car. The firm has leased the building at 712 North Broadway.

C. H. Smille, of Secor, Ill., purchased a lot in Roanoke this week and will shortly erect a modern garage to cost \$10,000. In addition to operating a repairshop, he will maintain several sales agencies.

The Riverside Garage, Iron River, Mich., has been purchased by W. A. Premo and B. V. Smith.

Walter Hedka has opened a garage in New Boston, Mich.

A. J. Torrence has purchased the Dansville Garage, Dansville, Mich.

Felix La Cosse is the new owner of the Saum Garage, Niles, Mich.

The McDonald Garage Co. has opened for business in Bad Axe, Mich. Besides doing machine and repair work, the company sells the Chevrolet and accessories.

Carl Zeisinger, Downing, Wis., is building a new garage and repairshop.

W. D. Johnson, Lancaster, Wis., and **R. J. Hoover**, Sauk Prairie, Wis., have formed a partnership and will engage in the garage and repair business at Lan-

caster. The firm has plans for a \$5,000 garage building, to be 69 x 132 feet, one-story, of fireproof construction.

Dvorak & Gaynor, Kewaunee, Wis., have broken ground for a new garage building, 40 x 120 feet in size. The business was established by the late John Gaynor in the spring of 1912 and is being continued by his son and J. F. Dvorak. The concern represents the Chalmers and Dodge.

Graf Bros. are building a large garage, costing about \$20,000, on Lisbon avenue, near 31st street, Milwaukee.

The L. J. Robinson Co., recently organized as Michigan state distributor for the Chalmers cars, has secured for its headquarters the old Regal quarters at 758 Woodward avenue, Detroit. Associated with Mr. Robinson is Walter Judd, who was formerly with the Bemb-Robinson Co. and who now is sales manager of the Robinson company.

Glenn Schlaack has opened a garage on Woodward avenue, Birmingham, Mich.

F. A. Thompson and his two sons have bought out the garage business of Donovan & Son, Charlotte, Mich.

C. A. Hofmeister will build a garage on Main street, Sebawaing, Mich.

Charles Christopherson has opened the Guarantee Auto Repair Co. on Third street, Muskegon, Mich.

A. B. Johnson, Springfield, Ill., has been given the agency for the Buick car and will have charge of the Springfield and Sangamon county territory.

John Gumb is erecting a \$12,000 garage and repairshop building at Teutonia avenue and Altan street, Milwaukee. It will be 30 x 125 feet in size.

SOUTHWEST

The Missouri Haynes Auto Co., Kansas City, will open a branch house at 127 Sherman street East, Hutchinson, Kan. Parvin and Lawson will handle the car in addition to the Maxwell.

J. J. Jones, president of the Jones Motor Car Co., Wichita, Kan., will open a service station for the Jones six. Parts and accessories will be stocked.

The Newell Motor Car Co. has established a used car department in its building at Twelfth and Locust streets, St. Louis.

The South Texas Implement & Vehicle Co., Houston, Tex., has added to its stock a line of commercial bodies.

C. A. Livingston recently moved to Hutchinson from Montezuma, Kan., and has entered the automobile business under the firm name of C. A. Livingston Auto Co. He will handle the King eight in the entire western part of Kansas. Livingston will occupy a new garage at 129 Sherman street.

H. R. Langworthy, who has been handling King cars at Batavia, N. Y., has organized a company with headquarters at Buffalo, under the style King Motor Co. of New York, and has leased a showroom and service station at 1133 Main street, where he will handle the King line for western New York.

The Oakland Motor Co. has been organized at Austin, Tex., and has been

He Cleaned Up

Page 5

appointed distributor for the Oakland in that territory. H. H. Cullen and F. E. Pryor are managers. The company has opened salesrooms at 300 East Fifth street.

Curtis & Francis, Ridgeway, Mo., have changed their firm name to the King Motor Sales Co.

The Austin Tire & Supply Co., with C. L. Pate manager, has purchased the business of the Aber-Schultz Auto Supply Co., Austin, Tex.

The Collins-Clem Auto Co., San Antonio, Studebaker dealer, has opened a new salesroom and service station at the corner of Crockett and Navarro streets.

NORTHWEST

The Used Car Exchange, Des Moines, has moved from 120 Eighth street to its new garage at 308 Eleventh street.

The Missouri Slope Motor Co. has been incorporated at Dickinson, N. D., P. J. Barringer and Louis Patrika, managers, and has opened a salesroom and distributing agency.

N. J. Lindstrom has built a garage at Evansville, Minn., and will sell Ford and Overland cars.

Lundberg & Anderson and the Ford Motor Co., of Clarkfield, Minn., will erect a garage.

A. A. Redetzke, Clarkfield, Minn., has been given permission to erect a garage on village lots and to charge 50 cents a month rental.

James Fordyce, Portal, N. D., has bought the R. J. Maurer automobile business and opened the Portal Machine Shop & Garage.

Dillner & Holbrook have formed a partnership at Mankato, Minn., to sell Studebakers.

Goodrich & Carl have been appointed agents for the eastern part of Montana by the Republic Truck Co. Headquarters are at Helena and branches at Billings and Great Falls.

The N. W. Cadillac Co., Minneapolis, has taken a building permit for a \$5,000 garage at Ninth street near Hennepin avenue.

The Walter S. Milnor Co., Minneapolis, has taken a permit to build a \$40,000 garage at 1124-28 Harmon Place.

John P. McDonnell and **J. B. Naughton**, garagemen in Lyons, Ia., have dissolved partnership. The business has been taken over by McDonnell.

The Lord Auto Co., Hudson distributor, Lincoln, Neb., has established itself in new quarters at 230-234 North 12th street.

E. J. Filiatrault, of the Mutual Auto Co., Duluth, has been given additional territory for distribution of the Overland; it consists of the northern part of Minnesota and Wisconsin. Five hundred cars will be distributed the first year.

The Omaha branch of the Fisk Rubber Co. has moved into a new home at 24th and Farnam streets. The company occupies most of the first floor and half of the second floor of a two-story pressed-brick building. The salesroom opens on Farnam street and the office and service department on 24th street. The building is 50 x 138.

The Clemens Auto Co., Des Moines, has bought an eighth of a block at 11th and Mulberry streets at a cost of \$40,000 and will build a four-story fireproof brick building to cost \$40,000. It will house the business of the company after Jan-

uary 1. The company handles the Overland.

The Central Iowa Motors Co., Des Moines, organized to do a retail and wholesale business in automobiles, has filed articles of incorporation with a capital stock of \$15,000. The officers are: President, W. S. Adams; vice-president, H. R. Brown; secretary, F. E. Card.

The Holsman-Stevens Automobile Co., Des Moines, succeeds the Holsman-Sales Co., handling the King in central Iowa. The company has opened a branch in Cedar Rapids, Ia.

W. T. Worth, Sioux City, Ia., with banking and financial interests, has formed the W. T. Worth Auto Co., Sioux City, and has arranged to handle the King.

Creig & Miller have sold their garage in Wilmont, Minn., to Mark and Emil Lais, who will take charge January 1.

Lawrence Balk has bought the Wilmont Auto Co.'s garage in Wilmont, Minn.

Elmer T. Lindholm has retired from Lindholm Bros., Beaudette, Minn., and V. E. and C. G. Lindholm will continue as the Pioneer Garage.

Joseph Saby has sold the Battle Lake Garage, Battle Lake, Minn., to P. A. Aldrich.

The Cockburn Auto Co., Cambridge, Minn., has opened a garage.

Spaulding, Nelson & Yates is a new firm in Osakis, Minn., which has put up a building. Spaulding will operate the garage and Nelson and Yates the repairshop.

Neal Bros. are building a cement garage at Second and Chestnut streets, Stillwater, Minn.

W. M. Prindle & Co., Duluth, Minn., is building an \$18,000 salesroom and garage at Second avenue and Superior street.

A. C. Foglesong and **John Humburg**, Tulare, S. D., as the Tulare Auto Co., have dissolved partnership.

H. H. Kuhenbecker is erecting a garage in Columbus, N. D., to be opened in the near future.

The Fisk Rubber Co. of New York is installing a tire distributing station in Nebraska, at Hastings. A. J. Bartlett, appointed from Omaha, is in charge.

The Eacker Auto Co., Albion, Neb., has been incorporated with a capital stock of \$4,500.

The Fisk Rubber Co. of New York has opened a Lincoln, Neb., branch at 11th and N streets.

E. M. Reynolds, Sphinx distributor in Omaha, has taken a salesroom at 2105 Farnam street.

The Allen & Van Nest Co., Minneapolis, has been appointed distributor of the Hupmobile in Minnesota.

The Omaha branch of the Firestone Tire & Rubber Co. has opened a new home at 2566 Farnam street. There is 21,000 feet of floor in the new three-story brick building and facilities for carrying 10,000 tires.

W. L. Killy and **H. B. Noyes** have formed a partnership in Omaha under the style Noyes, Killy Motor Co., and will distribute Saxon and Kissel cars.

SOUTH

The Union Motor Car Co., Nashville, Tenn., will rebuild its garage, which recently was destroyed by fire entailing a loss of \$20,000.

The Jones-Young Motor Co., Fort Mill, S. D., will operate a garage and repairshop and sell cars and accessories. C. A. Jones and James T. Young, Jr., constitute the firm.

M. C. Getchell, agent for the Studebaker in Laurium, Mich., has leased the Superior Garage on Heckla street and installed complete new equipment.

The Madison Co., which recently acquired the agency for the Madison car, has opened an office and salesroom at 206-210 East Broadway, Louisville, Ky. J. C. Hanna is president of the concern and Emmet Gibson vice-president.

The Hudson-Mackay Motor Car Co., distributor for eastern Virginia for the Hollier, has opened a new salesroom on West Butte street, Norfolk, Va.

EAST

R. K. Russell intends opening a garage and salesroom in Warren, Pa. He has the Buick agency.

Ed. S. Clark, 183 Allyn street, Hartford, Conn., who is Paige distributor, has taken the agency for Lippard-Stewart trucks.

The Kirk Garage, Logan, W. Va., has been sold to J. W. Fisher and William Harvey. The Ford agency goes with the garage.

The Meadowbrook Stable, Halsey street, Newark, N. J., the largest livery stable in Newark, has been converted into a garage. It is four stories high and has been completely overhauled and an electric elevator installed. 700 cars can be accommodated. Charles D. Sanderson is proprietor.

The Holmes Building Co., Providence, R. I., has awarded the contract for a 50 x 100-foot one-story garage of reinforced concrete on Lyman avenue.

C. N. Rice has opened an accessory store at 28 Central street, Lowell, Mass. A curb pump has been installed in connection with the 500-gallon tank. Repairing and vulcanizing will be done.

The Gould Automobile Co., 223 King street, Watertown, N. Y., intends to construct a two-story garage 50 x 150 feet.

William H. Murray, Worcester, Mass., will build a one-story garage at a cost of about \$20,000.

The Baltimore City Garage Co., Baltimore, has awarded the contract for a four-story garage to be built at 29 S. Charles street at a cost of \$100,000.

The Central Automobile Co., Baltimore, has opened a garage in what was originally built for a city market house. H. D. Caplan is president and A. H. Siskind secretary-treasurer. The building has over 10,000 square feet of almost entirely unobstructed floor space and entrances at both ends. Repairing, accessories and 24-hour service are among the good features of the new establishment. The new building will care for 75 cars.

W. N. Edwards, of Edwards & Halstead, which has been located at Post Road, Rye, N. Y., for 10 years, retired July 1. The business will be continued under the name of the Rye Garage with Jas. D. Halstead as its proprietor.

C. A. Spear, formerly of Batavia, has been made Syracuse representative of the Studebaker Corp. and has leased a salesroom at No. 696 South Salina street. His frontage is 110 feet. Including the garage and repairshop the plant will have 3,000 square feet of floor space.

The Baltimore City Garage Co. is contemplating the erection of a large pub-

lic garage at 29 and 31 South Charles street.

Silver & Grody, operating under the firm name of the Syracuse Motor Car Co., has taken over the Chevrolet agency in Syracuse.

The H. H. H. Tire & Mfg. Co., Newark, N. J., is about to move into larger quarters at 263-65 Halsey street, where extensive alterations are being made.

The East Palestine Rubber Co., of Ohio, has opened a service station at 46 William street, Newark, N. J., for the Nabob tires. B. L. Muller is in charge.

The D. and M. Auto Supply Co. of Utica has opened a salesroom and service station for Globe tires at 532 South Salina street, Syracuse.

A. A. Ledermann, central New York representative of the Pierce-Arrow Co., has opened a salesroom and service station at 207 Noxon street, Syracuse.

The Hartford Automobile Painting Co., Hartford, Conn., has removed from the main works of the Pope company to the Kingsley & Smith building.

J. P. Ennis, Hartford, Conn., has removed to the Kingsley & Smith building on Elm street.

The Auto Utilities Corp., 1698 Broadway, New York, has taken the agency for the Ross eight and established a salesroom.

The Reo Motor Car Co. is preparing to remove into new and larger quarters at the corner of Broadway and 54th street, New York.

C. A. Spear, Syracuse, N. Y., has leased two storerooms at 694 South Salina street. Studebaker cars are handled.

Owen C. Smith & Co., Chestertown, Md., is preparing to open a garage and salesroom for Studebaker cars. Supplies will also be stocked.

Pittsburgh Mercer Automobile Co. has removed into new and larger quarters on Penn avenue, near Whitfield street, Pittsburgh.

The Lexington Sales Co., New York, has removed into a new salesroom in the Circle building, 1840 Broadway.

PACIFIC COAST

The Barsby & Neep Auto Supply Co. has opened in Seattle at 1833 Broadway, and will act as distributor of Master carbureters in the King county territory, besides handling Marathon tires and the complete Johns-Manville line of accessories.

J. W. Playman, Auburn, Wash., will open a garage and machine shop.

Austin, Bryant & Carter, distributors of A. B. C. oils, will shortly open a distributing station in San Francisco, which will supply the trade of all of northern California, including Stockton and Sacramento.

George I. Abel, western agent for the Houk Mfg. Co., has opened a branch in San Francisco to handle the Houk wire wheel. Abel is the representative for seven western states.

Dallas May Get Speedway

AUSTIN, TEX., July 26—Plans are being quietly laid by a number of the leading dealers of Texas for the inauguration of a movement to build a first-class speedway at some point in the state. It is probable that Dallas will be decided upon as the location.

NAMED VICE-PRESIDENT OF ASSOCIATED GARAGES



LEWIS T. GANSTER

Pending the formation in Pennsylvania of a state organization to be represented in the Associated Garages of America, Lewis T. Ganster, Berks Auto & Garage Co., Reading, has been appointed vice-president for Pennsylvania by President Robert Bland of the A. G. A.

The Dealer—and the Slaves of the Lamp

(Continued from page 14)

salesroom—Fig. 1—on the street floor, carries small stuff at the front and heavy goods, such as lathes, at the rear. At one side are offices. The upper floors contain stock, accounting and purchasing departments and the shipping room.

Fig. 3—Storing the Goods

The stock on the upper floors is in classes. Tires and tubes, for instance, are in a dark room. Heavy goods, such as barrels of batteries, are on the floor or in low bins—Fig. 3. Lighter and smaller goods are higher up. Practically all stock is in bins and moves rapidly. A dozen barrels of batteries may not be on the floor more than one day when new ones must be needed from the warehouse.

Figs. 4-13-16—Perpetual Inventory

Each section of a floor is in charge of one man, and a perpetual inventory—Fig. 4, and shown in use in Fig. 13—is used. Articles likely to rust are kept in the original package and should the package be broken the remainder is placed in a drawer away from the outer air. Another card is shown in Fig. 16.

This is what the garageman's Slave of the Lamp looks like on the inside and how he works. When the retailer miles away orders a single article from the

jobber, the whole machinery described is set in motion. If it were working for one dealer alone it would cost thousands, but the service is possible because 15,000 dealers have learned to rub the lamp.

Famous "Desert Classic" Abandoned

LOS ANGELES, July 27—There will be no 1915 Los Angeles to Phoenix road race. According to the prominent motor car dealers of Los Angeles and other southern California cities, the "Desert Classic" is a race of the past.

With 47,000 automobiles in Los Angeles county, the leading automobile men of the county claim that it is an injustice to attempt to run a race over the public highways. The supervisors of Orange county positively refuse to grant a permit for the race to pass through that county. The Phoenix boosters demand that the race be run over the Southern route and this is dangerous on account of the great amount of automobile travel along the route to San Diego and through the Imperial valley.

Allen Model 37 Lists at \$795

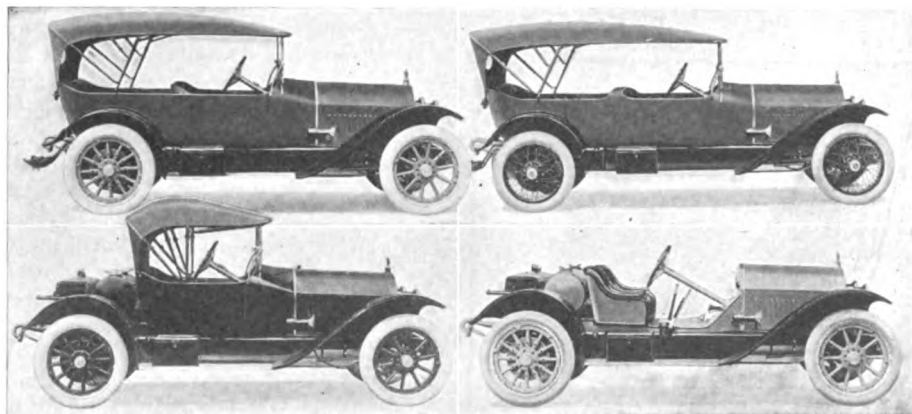
FOSTORIA, O., August 2—The Allen model 37 for 1916, produced by the Allen Motor Co., lists at \$795 in both touring and roadster form. It is equipped with a four-cylinder block $3\frac{3}{4} \times 5$ motor, Westinghouse electric lighting and starting apparatus and the essential transmission elements include a cone clutch, three-speed gearset, floating axle and semi-elliptic springs. The wheel-base is 112 inches and the tires $32 \times 3\frac{1}{2}$ straight side, non-skids in the rear. Equipment includes one-man top, windshield, speedometer, electric horn, etc.

Denby Reduces Truck Prices

DETROIT, July 26—A reduction in price varying from \$115 to \$215 has been made by the Denby Motor Truck Co. on the three models of trucks now being made. One model, the 1,500-pound truck, has been discontinued. The 1-ton truck, or model B, which sold at \$1,600, is now listed at \$1,475; model D, the $1\frac{1}{2}$ -ton truck, now costs \$1,685 instead of \$1,900; the 2-ton truck, model E, is now listed at \$1,985, or \$115 less than formerly. All of the constructional features and equipment remain the same on the lower-priced Denby trucks.

Hartford's Tire Situation Chaotic

HARTFORD, CONN., July 29—So keen is the tire competition here that one of the largest dealers announces that he will ship tires purchased of him to any point in the state or in adjoining states express prepaid. The tire situation, insofar as retail trade is concerned, is rather chaotic. Tire buyers have acquired the habit of shopping from one place to another because they have become accustomed to cut rates.



The Stutz Bulldog
The Roadster

The Bulldog Special
The Bearcat

New Bodies Features of 1916 Stutz

Mounted on Two Four-cylinder Chassis with Wheelbases
of 120 and 130—Racy and Streamline

NEW body designs showing considerable improvement over those of 1915 are the most noticeable change in the line of the Stutz Motor Car Co., Indianapolis, although there have been minor chassis changes of interest. The new bodies are mounted on four-cylinder chassis only and these are the same in every respect with the exception of the wheelbase, one being 120 and the other 130 inches, as in 1915.

There are three body styles for the smaller car as follows: Bearcat at \$2,000, roadster at \$2,100 instead of \$2,000, and Bulldog at \$2,250. On the 130-inch car there are two standard bodies, a newly-designed four-passenger Bulldog special having a double-cowl and selling at \$2,550, and a four-passenger touring car at \$2,300 instead of \$2,275.

The Bulldog special has an unusually low-hung appearance with the passenger

seats lower than is ordinarily seen. The whole body is a neat streamline job with almost a straight line from windshield to radiator, flush doors and symmetrical sides, resulting in a much better combination of curves than ever has been used in Stutz bodies.

The general smoothing out of the front of the car has been assisted by eliminating dash lamps and using headlights with dimmers. Instead of using wood strips to finish off the upholstery the new body has aluminum moulding which not only makes a better appearing finish but is more serviceable. The tonneau cowl has two compartments, one being designed for carrying a lunch kit and the other for two Thermos bottles, which are part of the equipment. The cowl material is Circassian walnut.

This car comes regularly equipped with wire wheels and Silvertown cord tires, which add to its racy appearance,

and a new type of windshield which is not as high as the ordinary type, and a searchlight.

The other touring car body while it has the same general lines as the Bulldog special has individual front seats set low in the car. There are only two doors and these are in front.

The elimination of the doors in the rear and the removal of dash lamps, as in the special, has offered the designer a means of getting a well rounded-out streamline body, giving a low rakish appearance. The upholstery in this model is finished as in the other and the equipment is the same with the exception of the wire wheels, tires and Thermos bottles.

The roadster now comes fully equipped and this is largely responsible for the increase of \$100 in the price. The body has been improved by bringing the

THE STUTZ LAYOUT

Price—120-inch wheelbase:

Bearcat \$2,000

Roadster 2,100

Bulldog 2,250

130-inch wheelbase:

Bulldog Special 2,550

Touring 2,300

Number of cylinders Four

Shape T-head

How cast Pairs

Bore 3¾

Stroke 5½

S. A. E. rating 22.5

Magneto Bosch

Carbureter Stromberg H2

Starting-lighting Remy

Clutch Cone

Gearset 3-speed

Tires 34 x 4½*

Wheels Wood†

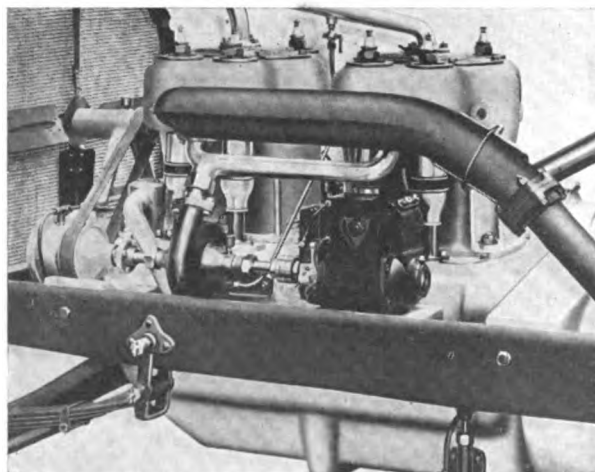
Steering Right

Control Right

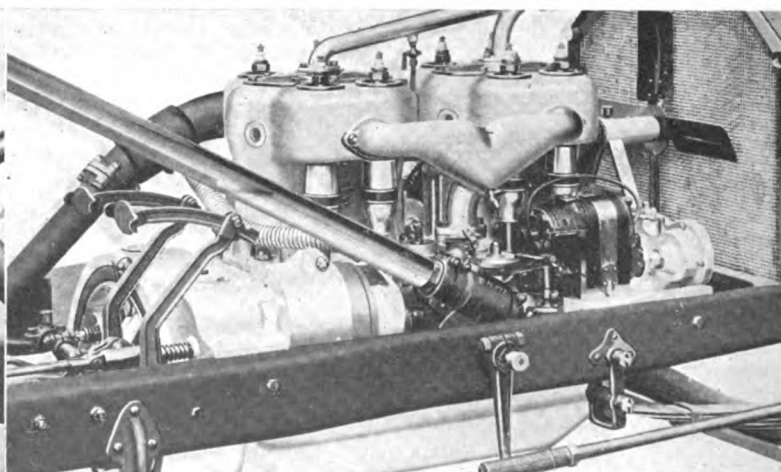
Make of axles Stutz

*Bulldog Special, 33 x 5.

†Bulldog Special, wire.



Exhaust side of motor, showing generator mounting



The intake side, showing unusual valve enclosure and also the adjustable pedals

seat upholstery flush with body sides and increasing the length of the cowl line. The back of the seat has been rounded more, and, as in the others, the dash lamps have been eliminated. There now are doors on both sides instead of on the left side only. In the Bearcat model there have been no apparent body alterations.

In the mechanical changes the most important is the enlargement of the oil receptacle in the crankcase so that it now holds $2\frac{1}{2}$ gallons instead of $1\frac{1}{2}$, this having been made so that less oil changing is needed. The crankcase has been increased in size and at the same time it has been given a more symmetrical appearance.

Springs, while they are of the same design as heretofore, semi-elliptic all around, now are made of alloy steel instead of carbon steel, in order to obtain greater strength and longer life.

Accelerator pedal operation is not so tiresome to the foot now because of the addition of a heel pocket in the front floorboard. In the equipment changes made on all models, there is the substitution of Hartford racing type shock absorbers for the automatic type of the same make; also the fitting of a Moto-meter.

The cone clutch, with springs beneath the leather to effect easy engagement, is continued unchanged. The pedal may be adjusted to suit the driver's requirements, the length variation being $2\frac{1}{2}$ inches. Continuing in the drive, there is an enclosed propeller shaft, the torque tube surrounding it, attaching to a face plate back of the clutch. A three-speed gearset is mounted on the rear axle, the gearset bearings being ball. The axle, which is a semi-floating design, uses tapered roller bearings on the inner ends of the shafts and ball bearings on the outer ends.

The Stutz company offers many color options for its bodies, these being vermillion, Monitor gray, Mercedes red, yellow and white for the Bearcat; red, blue, battleship gray and white are offered on the Bulldog; vermillion, gray, white and red on the roadster, and red, blue, white and gray on the Bulldog special. Upholstery options are red, green and black.

McKee Takes Up With Pathfinder

INDIANAPOLIS, IND., August 3—Homer McKee has been retained by the Pathfinder Co. as advertising counsel, the new arrangement to take effect at once. W. C. Teasdale retains the presidency of the company, with W. K. Bromley as secretary and treasurer.

Richman Cole Production Manager

INDIANAPOLIS, IND., August 3—J. F. Richman, formerly factory production manager of the Cole Motor Car Co., has been promoted to factory manager.

New York Garagemen in More Trouble with City

Authorities Bring Case Against Garage for Using Two Gasoline Motors—

President Johnston Is

Indignant

NEW YORK, August 2—An unsuccessful attempt by the city authorities to prevent the Bronx Garage from running without a license has renewed the desire of the Automobile Dealers Association of New York City to know who is running the fire department. When President R. H. Johnston of the association tries to learn who is responsible for the enforcement of what he terms "fool" laws he becomes the puck in a shinny game.

The inspectors send him to the Bureau of Combustibles; this division passes the buck to the Bureau of Fire Prevention; these worthies slip him along to the Board of Hazardous Trades; from here the association's president is referred to the deputy fire commissioner; and the deputy fire commissioner says he is working for Fire Commissioner Adamson. After running the gauntlet of Adamson's army of secretaries, Johnston is informed that the commissioner "will investigate," whereupon the head of the association goes back and starts all over again.

The suit against the Bronx Garage Co. was dismissed Wednesday after Attorney Charles Thaddeus Terry for the dealers proved the city's case was defective. The license had been refused to the garage because it has two small gasoline engines, one for an air compressor and the other for the machine shop. These were forbidden, but motors in cars were permitted, yet why the distinction was made could not be determined. Magistrate Simms heard the evidence.

NEW YORK, August 3—A suit similar to that against the Bronx Garage was brought against W. L. Byrnes and was dismissed today through the efforts of Attorney Terry of the dealers' association. Both this and the Bronx Garage buildings were passed by the fire department, which now declines to regard them as satisfactory.

Elmer Taking Over Subagencies

HARTFORD, CONN., July 28—In keeping with his announced policy of establishing his own stores where he now has subagencies, Lucius H. Elmer, proprietor of the Elmer Automobile Co., Ford distributor in four counties of the state, has just purchased a three-story brick building, 80 x 34 feet, in Williamantic, Conn. Alterations will be made immediately. In the rear of the building

is a vacant lot 117 x 49 feet on which a service station will be erected to look after Windham county cars.

Ryus Buys Olds Branches

LOS ANGELES, July 29—Capt. Harmon D. Ryus, who for the past five years has been manager of the Oldsmobile factory branch in Los Angeles, is now president and general manager of the Oldsmobile Co. of California. With F. G. Seager, of New York and Pasadena, Ryus has purchased the Los Angeles and San Francisco factory branches and the Pacific Coast agency for the Oldsmobile. This agency territory includes California, Oregon, Washington, Arizona, Nevada, the Hawaiian Islands and western half of Idaho.

The San Francisco branch will be in charge of Capt. Ryus and the main offices of the company will be there. The Los Angeles branch will be operated under a manager to be appointed within another few days.

Don Lee Takes On Oakland

SAN FRANCISCO, July 29—Don Lee, who long has represented the Cadillac in northern California, has been made distributor for the same territory for the Oakland. The branch which the Oakland company has maintained in San Francisco will be discontinued. R. A. Roberts, Pacific Coast sales manager for the Oakland company, who was in charge of the branch, will maintain an office at the Don Lee headquarters.

Wentworth-Fosdick May Get Dort

BOSTON, July 29—John D. Mansfield, sales manager of the Dort Motor Co., has been in Boston for some days trying to place contracts with the Wentworth-Fosdick Co. to handle the Dort as wholesale distributor for New England. He was called home before the deal was ratified, but as the Wentworth-Fosdick company's contract for the Hupmobile ended July 31 the probability of taking on the Dort seems quite favorable.

Judd Takes Over Business

BOSTON, July 29—John L. Judd, who has been traveling representative for the E. A. Gilmore Co., New England distributor for the Lewis VI and the Allen, has taken over the business and will continue it at the present salesrooms, 92 Massachusetts avenue. Gilmore has retired from the business and he may go to Worcester to handle the Dodge Bros. car.

Greer-Robbins Adds Chalmers

LOS ANGELES, July 24—The Greer-Robbins Co. was today appointed southern California and Arizona distributor for the Chalmers line. The company will continue to act as distributor of the Hupmobile.

Dealers of Many States Talk Over the New Cars

**Conventions Are the Order of the Day,
With Now and Then One Which
Is Not Exactly a Business
Session**

Pierce-Arrow Dealers Get Together

BOSTON, July 29—The officials of all the big Pierce-Arrow agencies east of the Mississippi held a two-day meeting at Boston this week, J. W. Maguire, Boston dealer, playing host. They discussed many matters of interest to the business, and between times played golf and dined. There were present Col. Charles Clifton, Buffalo; R. D. Gerton and C. W. Cady, New York; Charles Hanhuer, Cincinnati; D. E. Odell, Minneapolis; Grant Waldruf, St. Paul; C. R. Clifford and E. H. Stoddard, Springfield, Mass.; H. Paulman, Chicago; W. H. Ellis, Newark, N. J.; Herman May, Pittsburgh; Samuel Berdean, St. Louis; J. B. Westefeld, New Haven, Conn.; W. J. Foss and W. R. Fassett, Philadelphia; E. C. Bull, W. Newman and R. Patten, Buffalo.

Kalamazoo Dealers Gather for Fun

GRAND RAPIDS, MICH., July 29—The outing of the automobile and accessory dealers on July 20 was a big success. It will be an annual affair and more elaborate in future. In the run to Saugatuck, the average time winners were David Reid, in an Auburn, and A. C. Neureiter, in a Chevrolet. The fastest time was made by W. D. Vandecar, in a Reo, in 1 hour 22 minutes, or 35 minutes faster than the average time. The baseball game between the Kalamazoo and Grand Rapids dealers ended in a victory for the former by 8 to 5 in a five-inning game. During the evening there was a boat ride down the Kalamazoo river followed by dancing. Everyone had a good time and all were enthusiastic for making the outing an annual feature.

Maxwell New England Dealers Meet

BOSTON, July 26—Ralph Coburn, Eastern district supervisor of the Maxwell Motor Co., had the New England dealers as his guests at a meeting in Boston last Wednesday and Thursday when he showed them the new 1916 Maxwell car and signed contracts with the men for the coming season. More than 50 were present.

Kentucky Hupp Men Meet

LOUISVILLE, KY., July 30—Hupmobile dealers from all parts of Kentucky met at the showrooms of the Yager Motor Car Co., Third and A streets, last Thursday to view the 1916

Hupmobile and discuss the Hupmobile service plan with a factory representative. At noon they were driven in new cars to Senning's Park, where they were the guests of Roy Yager and Warren Shallcross, officers of the Yager company. Two hours were passed in satisfying good appetites and then the business of the day was taken up.

Packard Takes Over Fuller's Building

BOSTON, August 2—Papers were filed in the registry of deeds at Boston this morning transferring from Alvan T. Fuller to the Packard Motor Car Co. of Detroit, the big service station and salesrooms of the Packard Boston branch. The stamps on the papers indicated that the sale represented \$285,000.

Savannah to Have New License Law

SAVANNAH, GA., August 2—Savannah has a new license tax bill which has been reported favorably by the ways and means committee of the House. It provides the following scale of rates for taxation: Under 25 horsepower, \$3; 25 to 40 horsepower, \$5; electric vehicles, \$4; motor trucks, 1 ton or under, \$3; trucks, 1 to 3 tons, \$4; trucks, over 3 tons, \$5. Manufacturers and dealers may obtain two license tags for demonstration purposes for \$10 and as many duplicates as may be needed after this payment for \$2 each.

Denver Filling Stations Pay \$200

DENVER, July 29—A yearly license fee of \$200 for gasoline filling stations is provided in an ordinance just passed by the city council. The new law is interpreted as applying only to the regular filling stations that deal exclusively in gasoline and oil, and not to garages. Denver now has 16 of these filling stations, which have all been installed during the last two years. Some of the filling station proprietors claim the law is unjust and that it involves class legislation. Little hope is expressed of getting the measure set aside, however. The new ordinance is regarded generally as likely to prove a benefit to garages.

Boston To Shake Up License System

BOSTON, August 1—As a result of criticism by Judge Bryan and coupled with several serious accidents the Massachusetts Highway Commission plans to change the system of granting licenses to private owners in the future. Judge Bryan, in dealing with a court case before him, said that he had a license to drive any kind of a motor car when as a matter of fact the only one he knew anything about was an electric. He said the system was all wrong. So the commission took the matter up and it will put into force a ruling that an owner must specify what kind of a machine he wants to drive and he will be limited solely to that type.

Crops of the Northwest Will Bring \$600,000,000

**Bumper Yield Will Give \$300,000,000 to
Minnesota, Dakotas and Montana
for Wheat Alone—Prices
Are High**

MINNEAPOLIS, August 2—Figures almost unbelievable in their immensity found in the crop estimates for Minnesota, for the four Northwestern states, and for the Ninth Federal bank district, will sound as sweet music in the ears of motor car manufacturer and distributor and the accessory dealer. They give chance for an estimate of what trade for 1916 will be, considering that the Northwestern farmer is the heavy purchaser of motor cars in this trade section.

The government estimate July 1 of the total of all crops in the ninth district is \$600,000,000, or 800,000,000 bushels. This district centers at Minneapolis, where the bank is situated, and extends from the middle line of Wisconsin and upper Michigan west to Washington state.

Fully \$300,000,000 will be paid to the farmers of Minnesota, the Dakotas and Montana this year for wheat alone. It is expected to be the greatest small grain crop in the district's history, passing even the bumper yield of 1912. With better weather later in the season it is a question of whether the corn crop may not be enormous. Rains in even the near-arid districts of the states mentioned have rushed the wheat crop along fast, have prevented rust, and in every way lent aid toward an enormous yield of grains.

The government crop statement for 1912 placed the four-state wheat yield at 282,389,000 bushels and the estimate for July 1, 1915, was 257,402,000 bushels, but experts find there has been a great improvement since the first day of the new fiscal year. The wheat acreage sowed in the four states is about 17,330,000, and would require only a small improvement per acre to make an enormous gain over the federal estimate.

The oats estimate is 266,747,000 bushels, under the 1912 figures, but an improvement has been marked in this grain also since July 1, 1915. The total barley yield is estimated at 87,668,000 bushels, and the flaxseed yield at 15,799,000.

In this connection it must be remembered that the prices for grains are higher than last year, so that the farmer is to receive a sum total in cash greater than last year, both because the prices and the crops are greater. Wheat, instead of being 70 to 75 cents per bushel,

as last year, ranges just now well above the \$1 mark.

As for Minnesota, farm experts figure that the agricultural returns in new wealth this year will be \$410,624,000. This should mean financial and industrial peace and purchasing power. Farming is well diversified in this North Star state. William Magivny, president of the Union Stockyards, South St. Paul, puts an estimated value on hogs to come in in 1915 at \$33,000,000. Most of them will come from Minnesota. The estimate is 2,250,000 hogs. Last year the record was only 1,500,000. The cash estimate last year was \$19,000,000 at this time, so the present outlook is for nearly double the valuation of a year ago in live pork. In cattle and calves the expected gain is \$11,000,000 for 1915.

Corn Less by \$5,000,000

In the state, the corn valuation loss will be \$5,000,000, or 15 per cent, as compared with last year. Increased acreage of wheat reduces barley, rye and hay, and leaves oats at the same as last year. The wheat crop will be \$63,000,000. In Minnesota there are 1,186,000 milk cows. It is the bread and butter state of the Union, and to an even greater extent in 1915 because there are 26,000 more milk cows than last year. Low prices will permit an advance of only \$1,000,000 in dairy products for this year for the state, but the production is to be \$70,000,000.

In potatoes alone the yield is expected to be \$10,000,000. The crop has just begun to move. The crop is being financed just now on the basis of 35 cents per bushel to the farmer. Quality and quantity are good. The government estimate July 1 was 275,000 acres planted, which gives a total of 28,303,000 bushels.

On top of this the net increase in deposits in state banks for the year ending July 1, 1915, was \$10,291,510, to a total of \$49,822,205, to which may be added \$12,815,376 savings deposits, \$101,195,450 time certificates and \$468,599 in demand certificates.

Population Growing

The directory estimates of the population of Minneapolis and St. Paul show an increase in one year of 15,319, making Minneapolis a city of 360,357 and St. Paul of 276,140. The government census in 1910 placed the population of Minneapolis at 301,408 and St. Paul at 214,744. To give an other angle, the government estimate of population for July 1, 1915, is as follows: Minneapolis, 353,460; St. Paul, 241,999; Duluth, 91,913. These are gains respectively of 17.2 per cent, 12.8 per cent and 17.04 per cent. These are the largest of the cities of the state and reflect the gain average prevailing throughout the Northwest. The state's gain in five years is 171,053, or a total of 2,246,761.

\$60 Reduction Made in Ford's Canadian Prices

Runabout Now \$480 and Touring Car \$530—Canada Not to Get Benefit of Rebate—30,000 Car Quota Not Sold

DETROIT, August 3—For 1916 the new Canadian Ford prices are reduced \$60, the prices now being \$480, \$530 and \$780, respectively, for the runabout, touring car and town car. No speedometer is included at these prices. During the next 3 months no rebates are given, but if conditions change and warrant it a rebate may be announced later.

Because the Ford Motor Co. of Canada, Ltd., sold only 18,770 cars during the fiscal year ending August 1, the buyers of these cars will not receive a rebate which had been made conditional upon the sale of 30,000 cars during the fiscal year. While the Canadian business was practically uniformly good during the year, the foreign business which has always been a very important part of the Canadian plant, has dropped considerably, owing to the European war.

Seven Qualify at Des Moines

DES MOINES, August 2—Ralph De Palma and his Stutz came within 5.6 second of the world's record for 5 miles and seven cars and drivers qualified for the Des Moines Speedway races on August 7 at the elimination trials held Saturday. The speed necessary to qualify was set at 80 m. p. h.

Elimination miles were as follows:

Driver and Car	Seconds	M.P.H.
De Palma, Stutz.....	36.98	97.33
Burman, Peugeot	37.00	97.00
Cooper, Sebring	38.60	94.00
Alley, Ogren	40.20	89.20
Brown, Du Chesneau.....	50.00	77.50
Barndollar, Clergy Spl.....	50.00	77.50
Strung, White Spl.....	40.40	89.00
Chandler, Duesenberg	42.33	84.25
O'Donnell, Duesenberg	42.60	84.00

De Palma lengthened his elimination mile to a five-mile exhibition. His first lap, the elimination mile, was in 36.98 seconds or at the rate of 97½ miles per hour and was the fastest mile of the day, in the eliminations.

Additional elimination trials were held Tuesday and Wednesday afternoons. Indications are that ten cars will qualify for the main event which will be for a distance of 300 miles and for prizes aggregating \$10,000.

Wagenhals Motor Sees Trouble

DETROIT, July 30—The Wagenhals Motor Co., which has been making gasoline and electric three-wheeled delivery cars, was declared bankrupt a few days ago in the U. S. district court. The liabilities, according to the concern's sched-

ule, total \$13,673.91, of which \$3,858.45 is recorded as a priority claim as salary due to General Manager W. G. Wagenhals. The concern claims assets having a total value of \$15,100, consisting principally of machinery, tools, equipment, stock, also U. S. letter patent No. 1,030,357. The first meeting of the creditors is to be held in the bankruptcy court August 12.

Many Promotions in Timken-Detroit

DETROIT, August 2—Promotions and changes have taken place at the Timken-Detroit Axle Co. recently, among the officers. Former Vice-president H. H. Timken has been appointed chairman of the board; W. R. Timken remains president of the company; A. R. Demory, production manager; H. V. Alden, chief engineer, and Eugene Lewis, formerly secretary-treasurer, are appointed vice-presidents, and Mr. Lewis is also made general manager. Assistant Treasurer C. W. Dickerson is now treasurer; F. C. Gilbert, who was assistant secretary and sales manager, is promoted to be secretary and retains his other title. W. H. H. Hutton, Jr., who was purchasing agent, has been made director of purchasing.

Grant Revises Its Six

FINDLAY, O., August 2—The Grant Motor Co. has brought out what is known as Model TT Grant Six. It is not a 1916 model but rather a Summer Series Model. The only difference between the TT and the T model is that the former has a motor with 3-in. bore while the latter was 2½-in. bore. In the model T a Mayer carbureter was used, but the TT has a Rayfield. In other constructional and equipment features the two cars are alike and the price also is the same.

Denby Gets Detroit Property

DETROIT, August 2—The Denby Motor Truck Co. has purchased from the Detroit Trust Co., trustee, the property of the bankrupt Briggs-Detroit Co. for \$63,500. This property consists of the factory buildings and about 6 acres of land. The Denby company will move into this plant within the next few weeks.

Paige Declares 100% Dividend

DETROIT, August 2—At today's meeting of the stockholders of the Paige-Detroit Motor Car Co. a stock dividend of 100 per cent was declared. The company's capital stock was increased from \$250,000 to \$1,000,000, half of which will remain in the treasury.

He Cleaned Up

Page 5

Prominent Men of Trade Who Assume New Duties

**Resignations and Promotions That Serve
to Place Many Workers in New
Places—Few of Them Leave
the Industry**

Alanson P. Brush, of the Brush Engineering Association, Detroit, has been retained as consulting engineer for the Scripps-Booth Co., Detroit. Chief Engineer Wm. B. Stout receives the additional title of advertising manager.

A. H. Spencer has been appointed assistant sales manager of the Overland-Hartford Co., Allyn and High streets, Hartford, Conn.

John F. Hansen has been appointed sales manager of the wholesale department of the A. C. Hine Co., Hartford, Conn., state distributors of the Oakland. He was formerly identified with the Hudson agency.

E. C. Hopkins, formerly identified with the Boston branch of the Buick Motor Co., has gone to Providence to become manager of the Buick agency in Rhode Island controlled by Charles F. Thatcher.

Basil Ogg, former president of the Springfield (O.) Auto Sales Co., has been appointed manager of the branch house to be established by the Anderson Electric Car Co., Detroit, and which will be open for business at 218-222 South Fourth street, Springfield.

Geo. A. Buckbee has been made manager of the Boston branch of the Ahlberg Bearing Co., Chicago.

Joseph H. McDuffee, who was recently put in charge of the Willys-Knight division of the Willys-Overland Co., Toledo, has been appointed assistant sales manager of the entire organization.

W. J. Bradt, who for the past five years has been sales manager for the Herring Motor Co., Des Moines, has severed his connection with this company, and after taking a short vacation will assume new duties as sales manager for the White Star Refining Co., with headquarters in Detroit.

W. O. Turner has resigned as secretary and director of the Lovell-McConnell Mfg. Co., Jersey City. His successor has not been appointed.

F. C. Kenney is again assistant manager of the Studebaker Corp. branch in St. Louis. He held this position prior to becoming manager of the branch in Memphis, Tenn.

Thomas F. Burpee has been made assistant manager at the Philadelphia branch of the Splittorf Electrical Co.

A. S. Bowser, formerly secretary of the S. F. Bowser Co., Fort Wayne, has



JOHN F. PLUMMER
Locomobile, New York

District Representatives

XVIII

This is No. 18 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

John F. Plummer is manager of the New York branch of the Locomobile Co. of America and caters to all of New York state and the upper half of New Jersey. He entered the motor car industry January 1, 1900, at the Newton factory of the Locomobile company and has been with the same company ever since. After a brief experience at this factory he was transferred to the New York branch as a salesman and was later made superintendent of the Philadelphia branch, subsequently taking a trip to Australia, New Zealand, China and Japan in the interests of the Locomobile. On his return he was made western manager, with headquarters in Chicago, and in January, 1903, was made New York manager, which position he has held ever since.

been transferred to the position of assistant general manager of the Albany, N. Y., office.

W. A. Wheeler has been appointed production manager of the Paige-Detroit Motor Car Co. James F. Bourquin, who was formerly in charge of this work, is no longer connected with the company.

Karl J. Krug, who for the past two years was associated with Armour & Co., has been appointed district sales representative in territory in New York and New Jersey for the Knight Tire & Rubber Co. of New York.

Charles Balough, who has been identified for the last five years with the Kelly-Springfield Motor Truck Co. as chief engineer and works manager, resigned last June to take up the development of a new proposition in the commercial car field. His headquarters are at Columbia street and Dakota avenue, Springfield, O.

C. J. Elston has been appointed service manager of the Westcott Motor Car Co., Richmond, Ind. Formerly he was connected with the Buick and Hudson companies.

W. L. Killey is now manager of the automobile department of the Noyes Auto Co., Omaha, which has just closed the contract for the Saxon.

E. R. Boutell, of the Martin Motor Sales Co., Minneapolis, Maxwell distributor, has been made manager of the St. Paul branch at 344 North Exchange street.

C. W. Hobson has been appointed factory representative for the King on the Pacific Coast.

Will Parade to Sheepshead Practice

NEW YORK, August 2—Practice for the forthcoming race on the Sheepshead Bay Speedway October 2 will be inaugurated by a parade September 18 which will be promoted by the Motor

Club of New York and in which it is expected many New York and Brooklyn dealers will participate. One section of the parade will be for decorated cars, for which prizes will be offered. There will also be a prize for the dealer having the greatest number of owners' cars in line. Participants in the parade will be permitted to view the practice free.

Underground Tanks for Indiana

A movement has been started by the state fire marshal's department in Indianapolis to compel dealers and garage owners to place gasoline tanks under ground. Those who have their tanks above ground have been notified that they must bury them within 40 days under penalty of from \$10 to \$50 per day for neglect to do so. Prosecutions for failure to obey the orders will be made under the general fire marshal law of 1913.

Ford Day For Venice, Cal.

VENICE, CAL., July 29—The greatest motor car celebration ever held in southern California is scheduled for August 7, when Ford Day will be observed at Venice. The 72 Ford dealers of southern California have started a campaign to get every Ford owner in this end of the state to Venice on that day if possible. The city officials are to entertain the Ford dealers and the Ford Band, which will be here for the celebration.

Gas Goes Up In Hartford

HARTFORD, CONN., July 31—Gasoline has risen from 1 to 2 cents. Practically all of the sidewalk dealers and the garages are now charging 15 cents.

NEW YORK, July 25—The Sheepshead Bay Speedway Corp. is preparing to open an office for the sale of tickets at 1696 Broadway, this city. The executive offices remain at 17 Battery place.

Standardization of Car Parts Planned by S. A. E.

Nomenclature Recommended for 20 So Far—But It Will Be Months Before the Whole Job Is Completed

DETROIT, July 30—It has long been an ideal of the Society of Automobile Engineers to determine a standard nomenclature for all car parts so that confusion among the owner who wants the part, the dealer or garageman who has to fit it, and the manufacturer who supplies it may be avoided. The nomenclature committee has labored without producing any very tangible results, but the work done has been sufficient to demonstrate the very great importance of the subject, and enough data has been collected to enable a fresh start to be made along a sounder line. With this idea in view a meeting of engineers and service men was called today and the meeting was presented with a list of suggested names for a majority of the parts in a motor. At the end of 3 hours the 15 men present had agreed upon the names of some 20 simple parts only, and in one or two cases half an hour or more was occupied in the discussion of a single word. It probably will be several months before tangible results are obtained.

Ford Prices Down \$50

DETROIT, July 29—Commencing August 1, the Ford touring car will be sold at \$440 and the roadster at \$390. This is a reduction of \$50 on each model as compared with the existing price during the past year.

August 1 marked the opening of the fiscal year of the Ford Motor Co., and the company announced that no rebate is to be given Ford purchasers during August, September and October, but that it is possible a rebate will be decided upon later when the exact cost of manufacture, etc., which cannot be determined for several months, has been calculated. It is claimed that the roadster will be produced in much greater quantities than during the past year.

A. R. Pardington Passes Away

DETROIT, July 28—A. R. Pardington, vice-president and secretary of the Lincoln Highway Association, who for the past two years looked after the management of the association, died at Parker Hospital today, where he had been ill for some weeks. For several years Mr. Pardington has suffered with a malignant disease which had seriously handicapped him. Mr. Pardington's associations with the automobile industry have extended over many years. He was instrumental

Dealer Factory Visitors of the Week

SAXON MOTOR CO.

Linn Bros. Port Arthur, Tex.
Silas Swank Wabash, Ind.
J. J. Kemp Topeka, Ind.
F. N. Labadie South Bend
Messrs. Vaughn, Model Garage Roanoke, Va.
B. K. Waterman, Waterman T. & A. Co.,
Norfolk, Va.
C. A. Lord, Lord Auto Co. Lincoln, Neb.

STUDEBAKER CORP.

H. L. Coplantz, F. Seppel & Co. Manhattan, Ind.
H. D. Brown, Brown & Upperman Wyoming, Ill.
John J. Vertrees, Jr., Tennessee A. Co.,
Nashville, Tenn.
J. C. Lane, Lane Hardware Co. Robinson, Ill.
J. C. Pearcey Tipton, Ind.
R. F. Wilson, Central M. C. Co. Canton, O.
E. H. Ortner, Bywater-Ortner Co. Louisville, Ky.
George Renner Monroe, Mich.
R. H. Duff, Keystone Garage, Beaver Falls, Pa.
Paul Andrews Beaver, Pa.
Gus Forgeson Madison, Wis.
E. Williams Columbus, Ind.
J. W. Burkitt Arlington Heights, Ill.
Lloyd Schmelz, Kinzie Motor Co. Dayton
G. P. Schneeg Bluffton, O.
Geo. Wilson, Aaron De Roy M. C. Co.,
Pittsburgh
W. L. Olsen, Reynolds M. C. Co. Norwalk, Conn.
F. Reynolds, Reynolds M. C. Co. Norwalk, Conn.
L. A. Keller Omaha
Geo. Maurer, Maurer Bros. Freeport, Ill.
R. W. Appleby, Greene M. C. Co. Newark, N. J.
E. F. Newins De Kalb, Ill.
L. Leitz, Muehlhauser & Leitz Sandusky, O.
C. A. Spear Syracuse
John M. Kirkwood Wichita, Kan.
Herbert Bogardus Warren, Pa.
E. J. Drake Mendon, O.
C. Barr, Barr Bros. Uhrichsville, O.
Russell Trout Lebanon, Ind.
R. W. Nichols, DeFiance A. Sales Co. DeFiance, O.
Smith Bros. Los Angeles
Osmung Barringer, Barringer G. Charlotte, N. C.

PAIGE-DETROIT MOTOR CAR CO.

Paul L. Klingler, Klinger Co. Pittsburgh
Geo. H. Baldner Zenia, O.
W. R. Kent Bluefield, W. Va.
J. Wheatley Oklahoma City, Okla.
H. E. Whittaker Robinson, Ill.
C. J. Clapp Toledo
S. E. Dilbone Sidney, O.
E. S. Paynter Marion, Ind.
Arthur D. Ort South Bend
S. R. Jansheski Piqua, O.
J. D. Miller Bascom, O.
E. G. Bates Dayton
Cunningham Bros. Clarksburg, W. Va.

in the building of the Motor Parkway, Long Island, and has long been connected with automobile sports, having refereed all of the 500-mile races on the Indianapolis Speedway.

Hartford Reduces Electric Brake

JERSEY CITY, July 29—The Hartford Suspension Co. has materially reduced the price of its Hartford electric brake. The complete apparatus heretofore was sold for \$150, but hereafter the price will be \$90.

No Changes in Chalmers Co.

DETROIT, July 29—At the annual meeting of the Board of Directors of the Chalmers Motor Co. July 27, no changes were made in the personnel of the company. Hugh Chalmers remains president, which thus quiets the recent rumors that he was to retire from the company. The other officials are: General manager, Lee E. Olwell; chief engineer, C. C. Hinkley; secretary and assistant general manager, C. A. Pfeffer; vice-president and works manager, S. H. Humphrey; purchasing agent, C. A. Woodruff.

G. O. Pierce Coldwater, Mich.
Geo. C. Alexander Rushville, Ind.
Geo. H. Bird, Bird-Sykes Co. Chicago
E. G. Henry, Sterling M. C. Co. Indianapolis
D. S. Hoover Mansfield, O.
E. M. Johnston Denver
J. C. Hunt Fort Collins, Col.
A. L. Alexander Waterloo, Ia.
G. T. Sands Pentwater, Mich.
Geo. A. Dunlap Cadillac, Mich.
C. W. Curry Windsor, Ont.
W. E. Good Ashtabula, O.
F. D. Shaver Bay City, Mich.
S. J. Mitchell Marquette, Mich.
Harry Gibson West Philadelphia, Pa.
J. H. Tamblin Copenhagen, N. Y.
H. A. Porter Grand Rapids, Mich.

DETROITER MOTOR CAR CO.

George G. Reed Boston
H. E. Montgomery Kittanning, Pa.

WESTCOTT MOTOR CAR CO.

C. P. Kiel Oakland, Cal.
T. C. Brande St. Louis
S. A. Dwight Grand Rapids
H. E. Cooley, Rowe, Young & Cooley Chicago
A. W. Rowe, Rowe, Young & Cooley Chicago
C. S. Burke Springfield, O.
William Whitten Providence
Edwin Timm Danville, Ill.
Billman & Gremelspacker Logansport, Ind.
A. W. Tindall Hartford City, Ind.
O. E. Powell Washington, C. H., O.

PACKARD MOTOR CAR CO.

O. L. Barringer Charlotte, N. C.
A. L. Alexander, Central A. & S. Co.,
Waterloo, Ia.
A. M. Gibbes, Gibbes Mach. Co. Columbia, S. C.
W. J. Parrish, Packard Mo. M. Co. St. Louis
M. W. Rudd, Luttrell Co. Richmond, Va.
M. J. Budlong, Packard Motor Car Co. of N. Y.
F. G. Pennal, Comet Motor Co. Montreal, Que.
M. A. Kennedy, Ontario M. C. Co. Toronto, Ont.
F. E. Avery, F. E. Avery & Son Columbus, O.
A. E. Jones, F. E. Avery & Son Columbus, O.
O. F. Schee, Schee Co. Des Moines, Ia.
William Love Toledo

FRANKLIN AUTOMOBILE CO.

Andrew Aschenbrenner Amboy, Ill.
S. A. Sandberg Amboy, Ill.
Gilbert B. Perkins Brooklyn, N. Y.
A. M. Gibbes Columbia, S. C.
R. N. Tannahill Greenville, S. C.
E. R. Nelson Ishpeming, Mich.
F. V. Price, Jr. Elizabeth, N. J.
F. B. Heathman Dayton, O.

Autocar Boosts Wages 10%

PHILADELPHIA, July 31—Notices were posted about the factory buildings of the Autocar Co., Ardmore, Pa., today, notifying the employees that there would be an increase in wages averaging 10 per cent, accompanied by a reduction of 45 minutes in working hours daily. Time and one-half will be paid for overtime.

Pathfinder Adds a Building

INDIANAPOLIS, July 28—The Pathfinder Co. has had plans prepared for an addition 60 x 400 feet to the present plant to take care of the 3,500 production for 1916.

Singer Moves to New York

NEW YORK, July 28—After August 1 the factory and service station of the Singer Motor Co., Inc., will be located at 102 West End avenue, New York.

Auburn Lists at \$1,550, Not \$1,050

The price of the Auburn car was given as \$1,050 in the last issue of Motor World. This was a typographical error, the correct figure being \$1,550.

Motor Car Dealers Recently Established

PLEASURE CARS		
CALIFORNIA		
Place	Car	Dealer
Marysville	King	Yuba Machine Works
Santa Ana	Kissel	Chas. B. Perry
CANADA		
Brantford, Ont.	King	Dr. F. G. Pearson
Orangeville, Ont.	King	J. F. Atkinson
Quebec, Que.	King	E. C. Brochu
COLORADO		
Fort Morgan	Oldsmobile	J. H. Croft
Trinidad	Studebaker	D. J. Penno
Trinidad	Paige	D. J. Penno
ILLINOIS		
Flanagan	Pullman	T. B. Bennett & Co.
Galatia	Oldsmobile	H. W. Butler
Streator	Franklin	Central Garage
INDIANA		
Attica	Oldsmobile	Harmon Auto Co.
Greencastle	Oldsmobile	J. G. Campbell
Hartford City	Oldsmobile	Hartford Sales Co.
Marion	Oldsmobile	John V. Shugart & Son
South Bend	Scripps-Booth	William Derrall
Vincennes	Scripps-Booth	D. D. Aldrich
IOWA		
Central City	Apperson	H. S. Butters
Des Moines	Pullman	Pegau Auto Co.
Northwood	Apperson	Butter Auto Co.
Oskaloosa	Apperson	Zerring & Johnson
Sioux City	Apperson	Pioneer Auto Co.
Ann Arbor	Oldsmobile	Lucas & Schoettle Co.
MICHIGAN		
Bad Axe	Chevrolet	McDonald Garage Co.
Breckenridge	Oldsmobile	Fred Stevens
Clare	Dodge	Clare Hardware & Imp. Co.
Grand Rapids	Hupmobile	George F. Thuring & Co.
Holland	Dodge	Venhuisen & Kooyers
Lansing	Regal	Lyman A. Judd
Laurium	Studebaker	Mort Getchell
Pittsford	Regal	Bacon Bros.
MINNESOTA		
Ellendale	King	Laken & Berg
Elmore	King	W. O. Dustin & Co.
Hastings	Oldsmobile	Lovejoy & Johnson
Lamberton	King	A. P. Hill
Leviston	King	F. Easterman & Co.
Minneapolis	Pullman	A. M. Choate Auto Co.
St. Paul	Kissel	J. F. Lynch
NEBRASKA		
Avoca	Mets	Eugene Stutt
Bellvue	Mets	E. F. Stepp
Ord	Grant	Frank Beren
Ord	Davis	Frank Beren
Scribner	Apperson	Henry Tonjes
Stamford	Grant	David Elder
Stamford	Davis	David Elder
NEW JERSEY		
Atlantic City	Franklin	Edwards Taxicab Co.
Jersey City	Oldsmobile	J. Jacob Wacker
Madison	Oldsmobile	David S. Ely
West New York	Oldsmobile	West Shore Garage
NEW YORK		
Albany	Chalmers	Allen T. French Co.
Amsterdam	Pullman	Shutte & Co.
Amsterdam	Pullman	Shutte & Co.
Auburn	Scripps-Booth	Charles A. Hadselle
Batavia	King	N. L. Hawks
Binghamton	Scripps-Booth	Charles H. Worden
Brocklyn	Oldsmobile	Ready Auto Supply Co.
Catskill	Oldsmobile	H. W. Lasher
Chaffee	King	R. R. Allen
Hastings-on-the-Hudson	King	J. Morrison Gilmour
Hempstead	Kissel	National Garage
Hicksville	Oldsmobile	Acme Garage
Huntington	Oldsmobile	Carson Orcutt Sales Co.
Middletown	Oldsmobile	North End Garage
Mt. Vernon	Oldsmobile	Howard E. Laux
New Rochelle	Oldsmobile	W. M. Bantel
Norristown	Kissel	C. R. Hendricks
Richmond Hill	Oldsmobile	Apex Garage & Rental Co.
Rochester	King	F. B. Loescher
Rochester	Pullman	Ball-Washburne Motor Co.
Suffern	Kissel	Peiper-Blanchard Garage
Troy	Chalmers	Allen T. French Co.
Utica	Scripps-Booth	George A. MacCracken
West New Brighton	Oldsmobile	Short & Wisely
Yonkers	Oldsmobile	Lova's Garage
NORTH DAKOTA		
Carrington	Hupmobile	J. Buchanan & Sons
Hazleton	Partin-Palmer	Anderson, Hanawalt & Sneeberg
St. Thomas	Oldsmobile	S. E. Peterson
OHIO		
Arcanum	Pullman	Arcanum Garage
Athens	Regal	McCarte Garage & Mch. Shop
Bucyrus	Hupmobile	H. A. Smith
Burton	King	M. Bliss
Canton	Regal	Quality Motor Car Co.
Canton	Hupmobile	Canton Hupmobile Sales Co.
Carey	Oldsmobile	Carey Auto Sales Co.
Cincinnati	Pullman	Pullman Mot. Car Co. of Cin.
Carrollton	King	The Croton Garage

Place	Car	Dealer
Cincinnati	Oldsmobile	Eureka Auto Co.
Cincinnati	Pullman	Pullman Motor Car Co.
Cleveland	Regal	H. & G. Motor Co.
Cleveland	Ross	Hamilton Motor Car Co.
Columbus	Lewis	The Snyder Auto Co.
East Liverpool	Arbenz	Wm. T. Wilson
Findlay	Hupmobile	C. C. Kennedy
Galloway	Arbenz	Felton Bros.
Hamilton	Oldsmobile	Baxter Motor Car Co.
Hubbard	King	Raymond H. Tracy
Lancaster	Arbenz	Jos. H. Goldcamp & Co.
Lancaster	Hupmobile	John A. Houston
Lima	Regal	Lima Regal Sales Co.
Lorain	Oldsmobile	Brunk Mch. & Forging Co.
Louisville	Herff-Brooks	G. F. Munk
Louisville	Westcott	Westcott Auto Sales Co.
Martins Ferry	Regal	Krim Bros. & Sims
Middletown	Hupmobile	Wm. Cork & Sons
Middletown	Oldsmobile	Bevis & Shurtle Mch. Co.
Montpelier	Auburn	J. W. Pew
Newark	Arbenz	Chas. L. Yocker
Newark	Regal	Wylarch & Beck
Pomeroy	King	D. A. Davis
Portsmouth	Regal	John E. Fritz
Prospect	Oldsmobile	Court & Almendinger
Sandusky	Auburn	Welby C. Waterfield
Toledo	King	Landman-Griffith Co.
Troy	Oldsmobile	Smith & Densmore
Urbana	Oldsmobile	McAdams & McCrary
Warren	Oldsmobile	Miller & Troxel
West Liberty	Oldsmobile	John Hite
Weston	Hupmobile	Pugh & Jones
Youngstown	Hupmobile	E. C. Keller

OKLAHOMA		
Cherokee	Hupmobile	F. P. Devin & Co.
Enid	Oldsmobile	Enid Oldsmobile Co.
Oklahoma City	Regal	Knox Auto Co.
Ralston	Hupmobile	J. O. Cales

PENNSYLVANIA		
Bloomsburg	Scripps-Booth	Housenick & Sells
Carnegie	Arbenz	Davidson Bros.
Corry	King	Archie Benson
Edinboro	King	T. H. Crandall
Harrisburg	Pullman	Bentz-Landis Auto Co.
Hughesville	Pullman	Shipman & Bartlow
Midway	Arbenz	J. M. Raab & Bro.
Philadelphia	Owen	Carl H. Page Motors Co.
Philadelphia	Herff-Brooks	National Motor Co.
Pittsburgh	Pullman	Pullman Sales Co.
Sharon	Packard	DeForest & Son
Spring Mills	Pullman	E. P. Shook
Stroudsburg	Regal	Heckman Mot. Car & Mach. Co.
Tamaqua	King	J. M. Knepper
Verona	Arbenz	David C. Decker

Motor Car Securities Quotations

	July 31, 1914	July 31, 1915
	Bid	Asked
Ajax-Grieb Rubber Co., com.	220	360
Ajax-Grieb Rubber Co., pfd.	99	101
Aluminum Castings, pfd.	98	101
Chalmers Motor Co., com.	102	90
Chalmers Motor Co., pfd.	93	96
Firestone Tire & Rubber Co., com.	300	325
Firestone Tire & Rubber Co., pfd.	107	110
General Motors Co., com.	57	80
General Motors Co., pfd.	78	80
B. F. Goodrich Co., com.	19	21
B. F. Goodrich Co., pfd.	88	90
Goodyear Tire & Rubber Co., com.	170	185
Goodyear Tire & Rubber Co., pfd.	97	100
Gray & Davis, Inc., pfd.	97	102½
International Motor Co., com.	3	15
International Motor Co., pfd.	3	38
Kelly-Springfield Tire Co., com.	48	52
Kelly-Springfield Tire Co., 1st pfd.	70	75
Kelly-Springfield Tire Co., 2nd pfd.	85	92
Maxwell Motor Co., com.	9	10
Maxwell Motor Co., 1st pfd.	25	30
Maxwell Motor Co., 2nd pfd.	12	14
Miller Rubber Co., com.	90	92
Miller Rubber Co., pfd.	11	104
Packard Motor Car Co., com.	112	112
Packard Motor Car Co., pfd.	85	107
Peerless Motor Car Co., com.	10	17
Peerless Motor Car Co., pfd.	50	50
Portage Rubber Co., com.	30	36
Portage Rubber Co., pfd.	90	92
*Reo Motor Truck Co., com.	11	13
*Reo Motor Car Co., com.	19	21
Stewart-Warner Speed. Corp., com.	40	45
Stewart-Warner Speed. Corp., pfd.	97	98½
Studebaker Corp., com.	27	29
Studebaker Corp., pfd.	80	84
Swinehart Tire & Rubber Co.	84	86
U. S. Rubber Co., com.	44	46
U. S. Rubber Co., 1st pfd.	96	98
White Co., pfd.	107	110
Willis-Overland Co., com.	80	85
Willis-Overland Co., pfd.	83	103

*Par value \$10; all others par value \$100.

Place	Car	Dealer
Waynesboro	King	Burr F. Beard
Williamsport	Pullman	Ralph B. Harlacker

TENNESSEE

Chattanooga	King	Wallace Buggy Co.
Jellico	Hupmobile	H. M. Jones
Knoxville	King	King Motor Sales Co.
Knoxville	Moon	City Garage & Transfer Co.
Memphis	Oldsmobile	The Oldsmobile Sales Co.

TEXAS

El Paso	Franklin	Franklin Motor Car Co.
Fort Worth	Hupmobile	A. P. Mitchell
Houston	King	L. W. Worsham
McAllen	King	C. A. Phillips
Midland	Oldsmobile	Mainning & Yarbrough
Plainview	Hupmobile	Hubbard Bros.
Schulenberg	King	Dr. I. E. Clark
Yorktown	King	Gus Zedler

Coming Events

*Indicates sanction by A. A. A.

Sept. 20-25	San Francisco, Cal.	International Engineering Congress.
Oct. 1-2	Trenton, N. J.	Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal.	100-mile track race; Fresno Agricultural Association.
Oct. 2	New York	Speedway race meet, Sheepshead Bay Speedway Corp.
Oct. 2-9	Cincinnati, O.	Show, Music Hall; Automobile Dealers Association.
Oct. 3-10	Annual show, St. Louis	Automobile Mfgs. & Dealers Association.
Oct. 6-16	New York City	Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Oct. 16	Chicago	Speedway race meet, Speedway Park Association.
October 7	Grand Rapids, Mich.	Convention of the Garage Owners' Association of Michigan.
January 1-8	New York, N. Y.	Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
January 22-29	Chicago, Ill.	Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
March 4-11	Boston, Mass.	Fourteenth Annual Show; Boston Auto. Dealers Assn.; Boston Commercial Vehicle Assn.
Aug. 13	Flemington, N. J.	Track race meet, Matthews Auto Racing Association.
Aug. 20-21	Elgin, Ill.	Elgin road races, Chicago Automobile Club.*
Aug. 21	Ellenville, N. Y.	Track race meet, Matthews Auto Racing Association.
Aug. 25-26	Newport, Ind.	Hill climb, Newport Motor Club.*
Aug. 28	Kalamazoo, Mich.	100-mile track race, Kalamazoo Motor Speedway.
Aug. 30-Sept. 3	Columbus, O.	Automobile show; Columbus Automobile Show Co.; Ohio State Fair.
Sept. 3	Arden, Pa.	Track race meet, Automobile Club of Washington.
Sept. 4	Twin City, Minn.	Speedway race meet, Twin City Motor Speedway.*
Sept. 6-9	Worcester, Mass.	Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
Sept. 11	Burlington, Ia.	Track race meet, Tri-State Affair.
Sept. 17-18	Peoria, Ill.	Convention of Garage Owners Association of Illinois.
Sept. 18	Providence, R. I.	Speedway race meet, Narragansett Park Speedway.*
Sept. 18-25	Los Angeles, Cal.	Eighth annual automobile show.

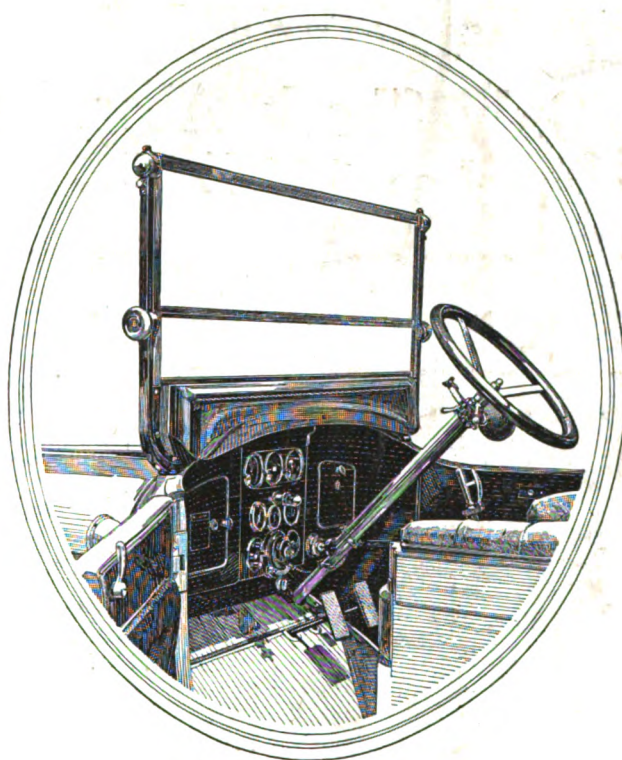
MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 6

New York, August 11, 1915

Ten cents a copy
Two dollars a year



Pierce-Arrow

The control is simple and convenient. A touch of the finger or foot starts or stops the motor. Spark and throttle may be operated without taking either hand from the wheel. The driver sits at the right, the safe and correct position for American rules of the road.

The Pierce-Arrow Motor Car Company Buffalo, N.Y.



The Only Shock Absorber
That Approaches 100% Efficiency Is

DANN INSERT "The Inter-leaf Shock Absorber"

AUTOMOBILE springs vibrate from tip to tip—throughout their ENTIRE length. Moreover, every leaf of every spring vibrates.

Shock and vibration do NOT flow to the back of the rear springs only, as one might suppose from the custom of attaching so-called shock absorbers at that point. Shock and vibration is distributed about equally over the WHOLE spring suspension, front and rear.

Now, the only logical method of cutting off mechanism-killing, passenger-jolting road shocks is to smother them at the source of generation—INSIDE the springs, and between every leaf. That is just exactly what Dann Insert does.

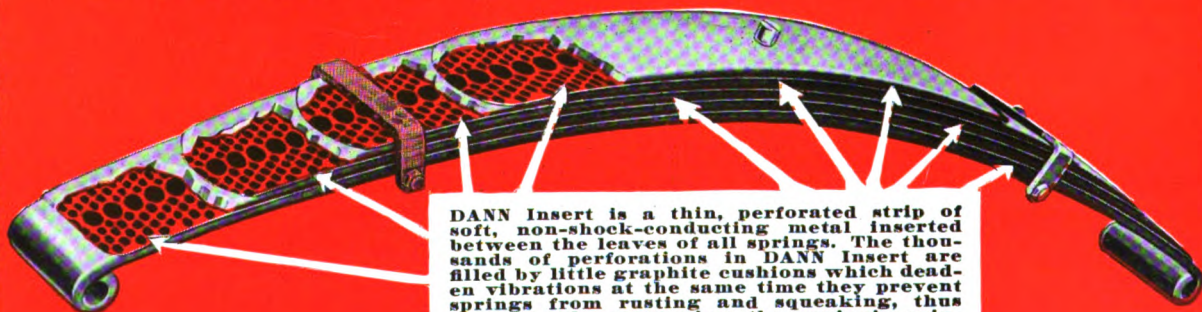
Shock absorbers attached outside of the spring, and at only one end, can be but partially efficient, no matter how good they are. They leave the front halves of the rear springs, and the front springs, absolutely unprotected.

DANN Insert—built into all four springs—from tip to tip between every leaf—places an effective shock absorber in DIRECT contact with every square inch of the spring's vibration-conducting surface.

One might assume from the rather common practice of attaching ordinary shock absorbers to rear springs only, that front springs NEEDED no protection. The fact is that the costly mechanism housed underneath the hood demands equally as much consideration as the comfort of your passengers. DANN Insert, which is always installed in the front springs as well as the rear springs, appreciably reduces repair bills and effectively lowers upkeep cost.

Don't invest in any shock absorber until you have investigated DANN Insert. Write for interesting booklet, "The Story of the Inter-leaf Shock Absorber."

DANN SPRING INSERT CO.
2265 Indiana Avenue Chicago, Illinois



DANN Insert is a thin, perforated strip of soft, non-shock-conducting metal inserted between the leaves of all springs. The thousands of perforations in DANN Insert are filled by little graphite cushions which deaden vibrations at the same time they prevent springs from rusting and squeaking, thus permanently preserving the spring's original flexibility and efficiency.

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REMINDER

We Are—

MANUFACTURERS AND AGENTS specializing on certain items of known worth and in continuous demand throughout the Automobile Industry. We sell **ONLY TO THE TRADE** and our lines include:

Lennon Light Protectors—Ideal Hose Clamps
Walden Worcester Wrenches and Tools
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Culver-Stearns Lighting Equipment
Eureka Valve Grinding Compound
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RED SEAL SPARK PLUGS
FAWSCO IGNITION ASSEMBLIES FOR FORDS
Excelite Lamps for Autos, Boats and Cycles

We have Branches and Stocks for your convenience in Atlanta, Ga., and Philadelphia, Pa.

Our prices are right, our goods are guaranteed for satisfactory service—write for our literature and prices

J. H. Faw, Inc.

Main Office - - - 41 Warren Street, New York City

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When writing advertisers please mention Motor World

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, August 11, 1915

No. 6

A \$500 Order From a Single Window

The Day After It Was Set
up a Passerby Saw,
Stopped, Bought

Denver Garagemen Make Gain
of 500% in Accessory
Business

- ❏ Five hundred dollars from one car owner.
- ❏ All because of accessory display.
- ❏ Accessory sales boosted from \$50 to \$300 a month.
- ❏ All because of accessory display.
- ❏ Increased business in all departments.
- ❏ All because of accessory display.
- ❏ And a cleaner garage and greater good-will from customers; a remodeled office and show window, a remodeled and relocated stock room, an enlarged stock and increased equipment.

THIS is the brief story of the big results that have been achieved by Charles T. Bruckman and O. M. Johnson in the Pearl Street Electric Garage, 1314 Pearl street, Denver.

They have revamped their business, made improvements in the garage, begun to push accessories, have increased their profits and now are endeavoring to help other garagemen do the same thing. Bruckman is president of the Automobile Trades Association of Colorado and is working hard for the uplift of the garage trade. It has paid these men so well that they want others to share in these Greater Profits.

Last week they put in a battery window display. The next day it brought them an order for \$500 worth of goods.



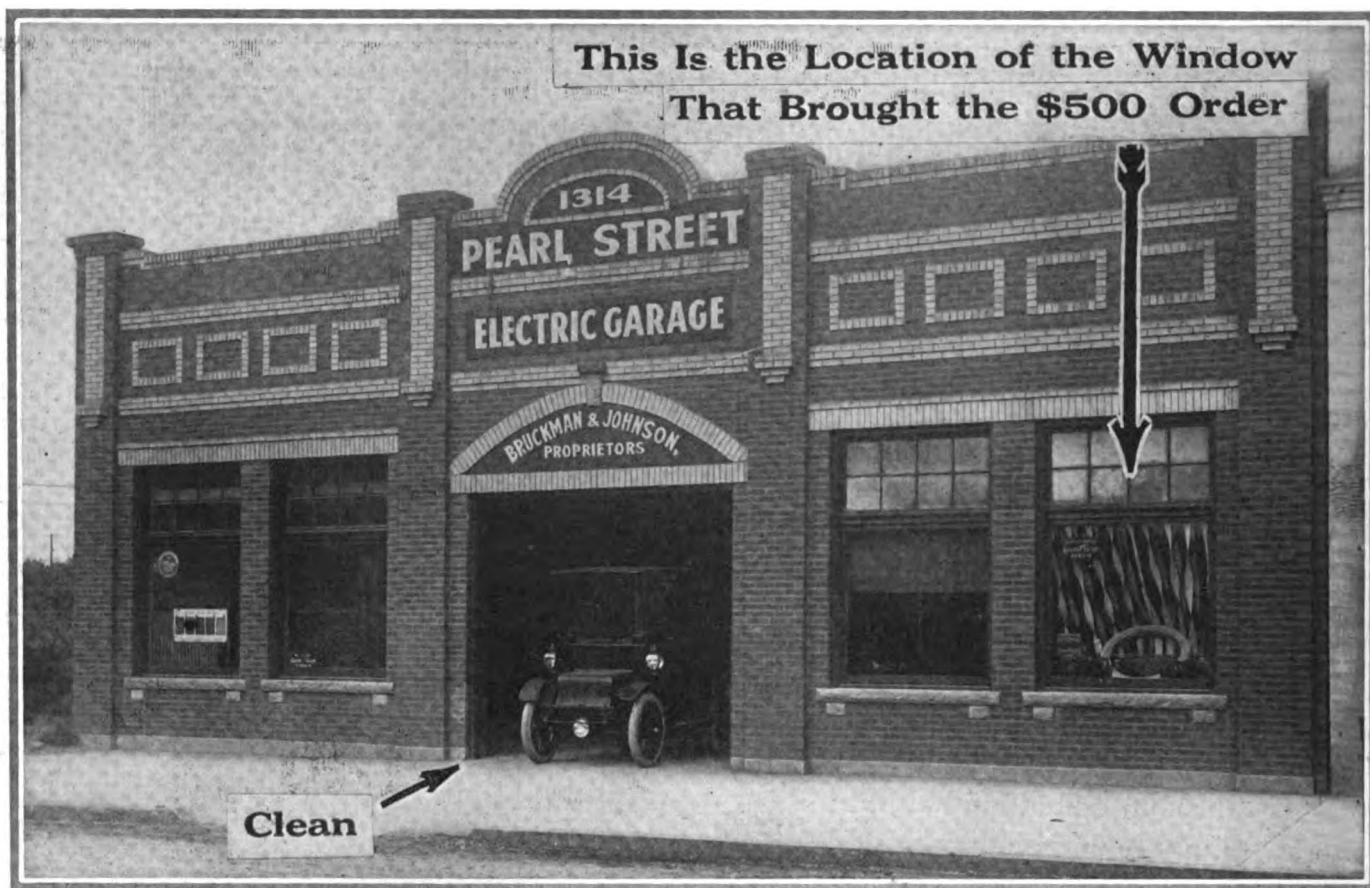
CHARLES T. BRUCKMAN

O. M. JOHNSON

The \$500 order was for a battery lighting system for a man's home, a type of order they had not anticipated. The motorist was passing the garage when he saw the window display. He stopped, made inquiries and bought. This display in a few minutes had earned the proprietors

between \$75 and \$100. It served to emphasize what display really means.

Operating an electric garage, they displayed batteries because they sell batteries to electric car users, but the sale of a house lighting system is a good, clean sale which causes the garageman



little trouble after he has written the order in his book.

They have followed the plan in Motor World's Campaign for Greater Profits and are enthusiastic over the results that have come since they took their accessories out of an obscure location and put them out where they must be seen by customers and the passing public. The window display is changed at least every two weeks.

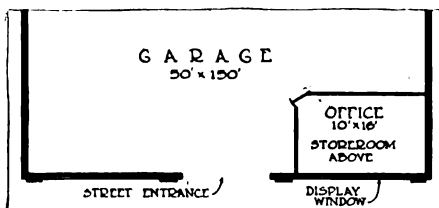
"We had been handling tires and batteries for more than a year," said Bruckman, "but it was only since Motor World's campaign started that we realized the value of pushing this feature of our business. Now we see how we can make the accessory end pay well in itself and also serve as a drawing card for more regular business.

Extra \$300 Worth While

"From as low as \$50 a month in the winter we expect to make our accessory sales run as high as \$600 and \$700 a month during the summer. It has been averaging about \$300 a month thus far and we feel confident it will be 50 per cent greater inside another year.

"An extra \$300 a month in side-line trade is well worth working for, especially when this special trade is a substantial help toward building up a good increase in our regular business. From an incidental accommodation to our customers we have developed our accessory department into a paying business.

"It must be remembered that ours is



The office of the Pearl Street Electric Garage is but 10 x 16 feet, and all that is used for display is the one window—but it brings results. The stock room is now upstairs over the office. Formerly it was in the front corner at the left of the entrance

a moderate-sized garage for electrics exclusively. Were we garaging gas cars we would go into accessories on an even larger scale.

"The Motor World Campaign for Greater Profits had much to do with what we have done. We made our office larger and have improved things generally. The old office was barely large enough for a desk and a chair, and the adjacent corner of the building was used for a stock room with no chance for a display.

"We feel that it pays to do everything possible to overcome the general reputation the garage business has unfortunately acquired for dirt, carelessness and poor service."—Charles T. Bruckman, president of the Automobile Trades Association of Colorado.

"A partition was put up, turning the whole corner of the garage into an office, 10 x 16 feet, with two windows. The interior is finished in Upson board and a stock room has been conveniently located above the office. Besides giving a chance for a display this makes the garage far more attractive in its general appearance. It pays well.

"Now people know we handle tires, and whether they are driving an electric or a gas car they notice our window when they pass and are likely to remember us the next time they need something. The window is even more attractive at night than in the daytime, and gives to the public a favorable impression of our garage. We feel that it pays to do everything possible to overcome the general reputation the garage business has unfortunately acquired for dirt, carelessness and poor service.

Boosting for Better Business

"We are using our influence to get other garages to join this movement for better business, more attractive garages and a better standing in the good-will and confidence of the motoring public."

The Pearl Street Electric Garage is located in the Capitol Hill residential section, eight or ten blocks from downtown, and has about 80 regular customers for charging, storage and service. Its business has doubled within two years and is now growing faster than ever.

The garage is 50 x 150 feet, with a shop and battery room 30 x 50, a \$2,000

50-kilowatt charging plant, six rectifiers and storage space for 40 cars. The charging plant is connected with a 2,200-volt line and has plug connections for every storage position. During the last six months the proprietors have put in \$2,500 worth of new equipment, including the charging plant.

Because of the convenient location of jobbers a large stock is not necessary. It includes \$200 to \$125 worth of tires and tire accessories, a small supply of batteries and \$250 worth of bearings, controller parts and other parts in frequent demand. If a call is made for an article not in stock it can be secured in about 10 minutes from a downtown jobber.

As president of the Automobile Trades Association of Colorado Bruckman hopes to accomplish much in the campaign for better business, and his first move has been to make his own place an example of what better business, cleanliness, order and display can accomplish.

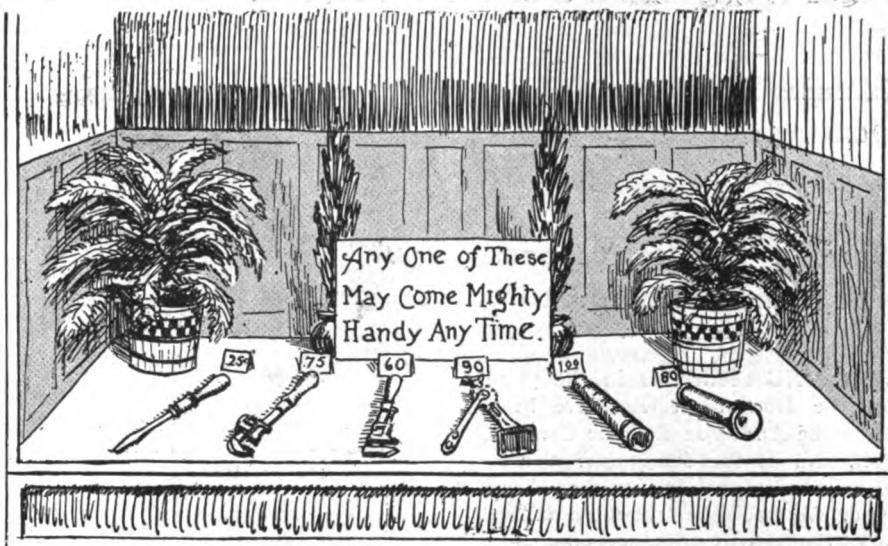
The Meiklejohns Reproduce Window Suggested by Motor World

THE SUGGESTION

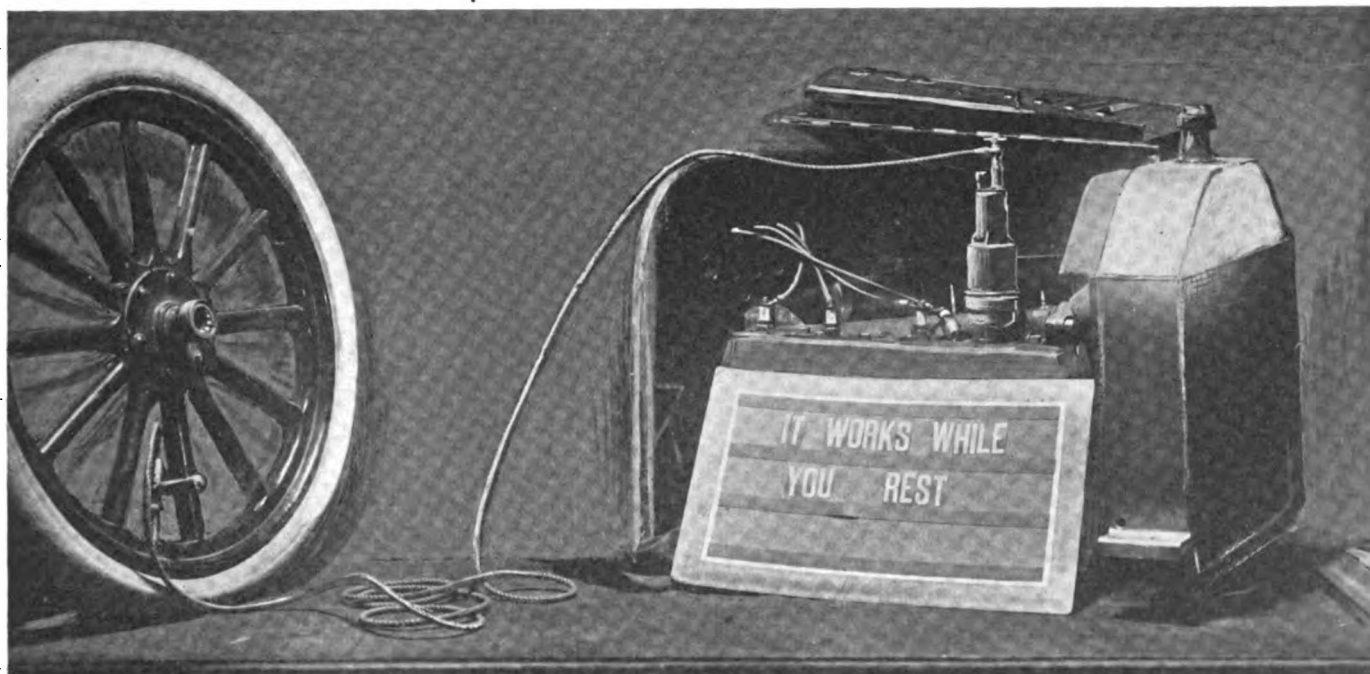
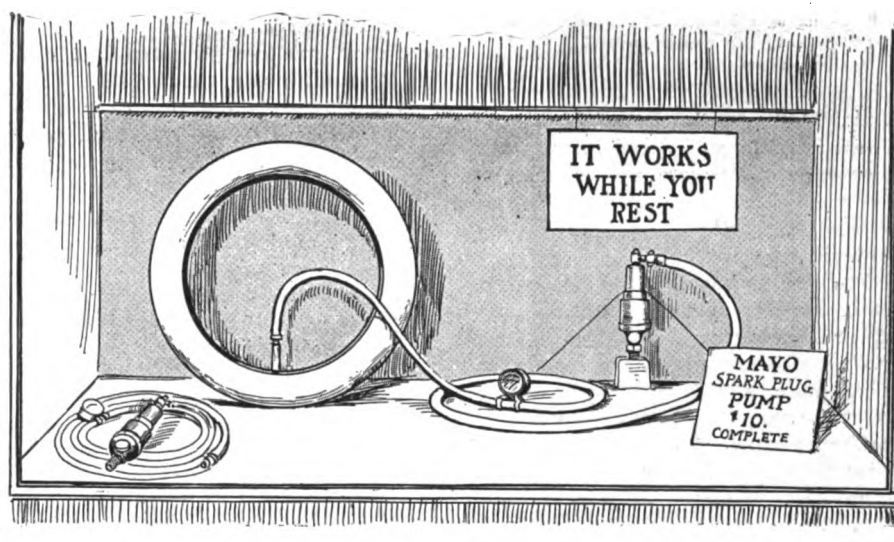
THE REAL WINDOW

J. W. and J. H. Meiklejohn, garagemen in Waupun, Wis., whose merchandizing awakening was described in Motor World July 21, have set up a window which was suggested in Motor World July 14 on page 11. They even went the suggestion one better and, instead of putting the pump in a wood block, set up a motor and showed how the pump looks in service. They forgot to put in the price card until after they had taken the photograph. The back of the display was draped in cloth.

Here Is Another Window Display Suggestion



First—Clean the window. Then, from a florist or elsewhere, borrow or rent enough potted ferns, palms or other plants to make a floral setting. Then, lay a half dozen tools—such as screw-driver, wrenches, jack, fire extinguisher and flash lamp—in the form shown. Put big card at back and small price cards back of each tool. Let window stand from Friday to Thursday



Detroit Electric Reduces Price

Minimum Reduction \$575 —

Maximum Cut \$725—Few
Mechanical Changes

Bodywork, Performance and
Convenience Improved

SWEEPING reductions in the price of the Detroit electric have been made by the Anderson Electric Car Co., Detroit, and at the same time a one-chassis basis of production has been adopted. Six bodies are mounted on this chassis, the new prices, as compared with the old ones, being as follows:

Model	1915	1916
61 4-passenger brougham	\$2,600	\$1,975
60 5-passenger brougham*	3,000	2,275
59 5-passenger brougham†	2,950	2,225
58 5-passenger brougham‡	2,950	2,250
57 4-passenger enclosed.	2,850	2,175
56 3-passenger cabriolet.	2,650	2,075

*Double drive. †Rear drive. ‡Front drive.

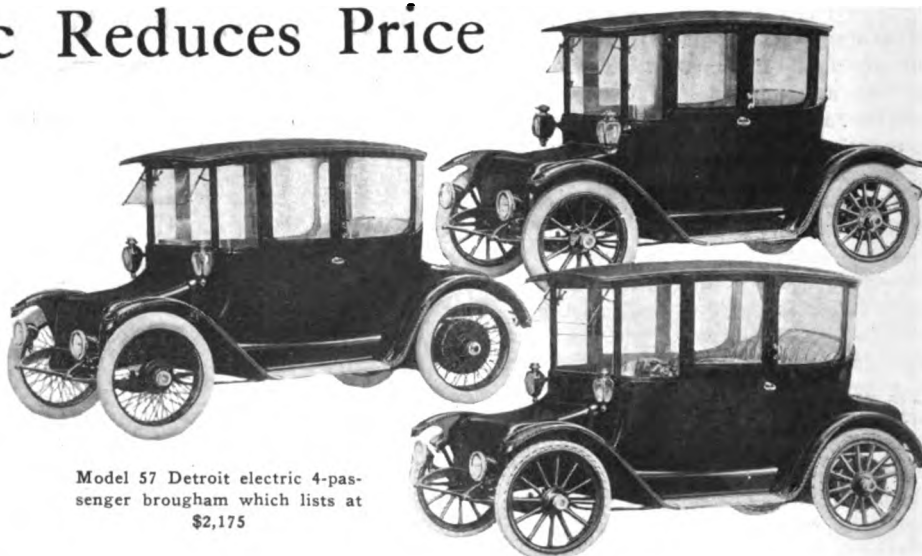
There is nothing changed in the basic construction of the cars, a 4 horsepower series wound motor with shaft drive to the rear axle and 42-cell lead battery equipment being retained.

There are, however, a number of refinements, all tending towards greater interchangeability of parts, better body work, performance and convenience. For example, all glass is mounted on thick rubber with the channel dovetailed in such a manner that it is said to be impossible for wash water or the most driving kind of a rain to find its way within the body. Door locks have been fitted which may be operated from either side of the car on both the inside and outside of the doors.

Steering Vibration Eliminated

In order to eliminate vibration in the steering handle of the rear-drive cars an idler bracket has been adopted. This is mounted on ball bearings in a dust- and water-tight casing, and is bolted to the frame in the same place as the steering mast of the forward-drive cars. The long reach rod has been dispensed with in favor of two shorter rods, with the idler absorbing the shocks caused by the inertia of the rods and also road inequalities. The idler is nicely supported on springs which take up the wear and prevents rattles and vibration. It is packed in grease and so constructed that the whole inside mounting can be withdrawn readily from under the body of the car.

The current cut-out has been entirely redesigned in order to adopt the more efficient knife blade type of switch, as



Model 57 Detroit electric 4-passenger brougham which lists at \$2,175

Model 61 Detroit electric, 4-passenger brougham, \$1,975.
Model 60 Detroit electric, 5-passenger double drive brougham, \$2,275

this new design has proven itself most reliable after much testing. The top cover of the cutout box is easily removable for inspection purposes, and as another indication of accessibility the removal of two screws allows the bottom of the box, to which the contacts are fastened, to be removed. Although the terminal board under the left rear seat is to be continued exactly as it was, the fuses for the lamps have been increased from 4 to 5 amperes capacity. The third speed shunt has also been made of greater capacity by using a larger diameter of wire.

Self-Lubricating Controller

All the bearings in the controller have been made of the self-lubricating type. Another controller change is the redesigning of the cover and the use of a pressing for that member. The resistance for the adjustment of the motor brake, together with the meter shunt, has been mounted on the controller base and underneath the cover.

A piece of felt running the length of the controller frame and saturated with sperm oil provides for automatic lubrication of the controller drum so that the drum contacts wipe across the felt which keeps the controller blade constantly clean and lubricated. Leakage of the current is prevented through the oiled felt by now mounting the lubricator in a separate casing insulated from the controller base.

No change in principle has been made in the motor brake. Refinement details, however, include the use of a Raybestos covered disk mounted upon a screw thread, which allows for adjustment for wear. This does away with the twelve or fourteen adjusting washers which were used on the previous models of motor brakes.

Improvements have also been made by the addition of more foot brake material,

which allows for a greater wear without the need of frequent adjustment.

Brakes on rear hubs are of the internal expanding type, size, 2½ x 16 inches, and are operated by merely pushing foot brake pedal forward. To the left of foot brake pedal is located a smaller pedal. Pushing this small pedal forward with the foot supplies rear hub brakes and simultaneously cuts off the power through a knife blade cut-out switch. It also operates a ratchet which sets the brakes. When brakes are set in this manner they cannot be released until controller handle is in neutral driving position. This small lever is the one used in emergency when it is desired to stop the car very suddenly or when desiring to lock brakes upon leaving the car.

New First Speed Resistance

A new design has been worked out for the first speed resistance. The resistance coil of heavy wire is supported on the frame at each end so that there is a circulation of air all around it. This increases the heat radiation and affords a considerable saving in weight as compared with the less compactly designed previous first speed resistance. Refinements have also been built into the controller mast and its universal joints, the latter now being of heavier construction than it was, with an adjustment providing for wear. A bar of spring steel is used to connect the joints so that there will be a slight yielding in case of an inexperienced driver applying the motor brakes too harshly. The steel, however, is stiff enough to be rigid under all ordinary driving conditions. This construction is to safeguard the bending or disarrangement of any of the other parts of the controller mechanism.

Optional equipment is given for the rear axle, for beside the standard type of worm drive used in the 1915 models,

there is being offered a floating worm-bevel gear rear axle. The reduction in the new axle is 6 to 1. Ball bearings are used in the construction, and the differential gears are cut out from chrome-nickel steel.

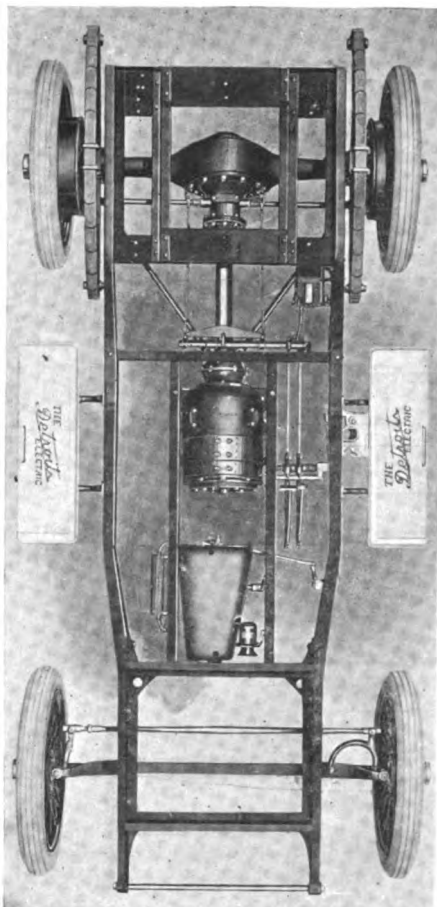
Battery equipment consists of 42 lead plate cells of 15 plates each, contained in eight trays arranged lengthwise. This method of arranging them allows for identical traps and very accessible connections upon raising the battery hoods. Weight reduction of about 50 pounds has been accomplished in the battery construction. Special treatment is being given the battery hold-downs and similar parts so as to reduce rusting and corrosion of these fittings from the acids.

In model 61 the operating levers are mounted on the left of the rear seat and steering is accomplished by the driver's right hand, while the shorter lever does the controlling. Theft of the car is prevented by swinging both levers into a vertical position, where they are locked. Three persons can be accommodated on the wide rear seat, and a fourth passenger on revolving Pullman-type chair in the front right corner. Wire wheels or wood type are optional, as are also 36 x 4½ Goodrich Silvertown cord tires or Motz cushion tires. Among the equipment features are a Weston volt and ammeter, toilet case, cut-glass flower vase, and the Hanlon rain-vision windshield.

The other models offer corresponding appointments and equipment, and all preserve the exemplary body work characteristic of the Anderson body factory. Aluminum is very extensively used with all portions of the bodies which are exposed to the weather, such as hoods, window frames, roof, side panels, etc., efficiently constructed of this material. The fenders are also of aluminum and formed into an appropriate design and are skirted to the bodies so as to completely protect them from splashing mud. The standard wheelbase of all models is 100 inches.

Indiana Service Managers Organize

INDIANAPOLIS, August 7—The Organization of Service Managers of Indiana was formed here today. It will work for better conditions and greater efficiency in service work. The officers are: President, Harold Drew, Nordyke & Marmon Co.; vice-president, J. F. Colton, McFarlan Automobile Co.; secretary-treasurer, S. D. Smith, Cole Motor Car Co. Others present were: C. J. Elston, Westcott Motor Car Co.; Mr. Williams, Inter-State Motor Co.; Mr. Myers, National Motor Vehicle Co.; Mr. Klee, Stutz Motor Co.; Mr. Perry, Haynes Automobile Co.; Mr. Seeds, Lexington-Howard Co.; Mr. Swain, Empire Automobile Co.; Mr. Conover, Premier Motor Mfg. Co.; Mr. Lester, Packard Motor Car Co., Detroit. Committees will be ap-

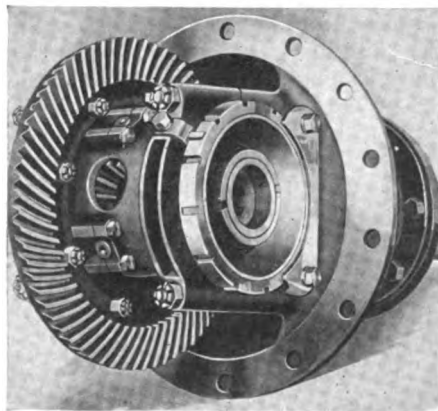


Few alterations have been made in the Detroit electric chassis

pointed later by the president. A banquet was served at 6 o'clock at the Severin Hotel.

All Mercedes Cars Made for War

LONDON, ENG., Aug. 9—A statement has been made by a former German prisoner who has just arrived in this city that all 1912, 1913 and 1914 German Mercedes cars were built for war purposes. C. B. Pray, an American automobile mechanic, states that the chassis of every car was perforated at the sides



In addition to worm drive, worm bevel gearing is optional equipment

with two sets of four holes each, at equal distances from the front and rear, for the purpose of riveting over the

chassis frame a plate heavy enough to bear a weight of 1,000 kilograms.

In May and June, 1914, the cars were called in for inspection and returned with the plates mentioned duly affixed without the owner's knowledge of what had been done. When the cars were requisitioned for war only the tops had to be ripped off and guns and searchlights mounted in their places.

Detroit Battery to Double Plant

DETROIT, August 9—Principally Indianapolis men and capital are now interested in the Detroit Battery Co., which recently increased its capital stock from \$10,000 to \$60,000. It is planned to double the size of the plant and production. Sidney W. Elston, who was secretary-treasurer of the Pumpelly Battery Co., Indianapolis, is president and general manager. W. A. Petzold, secretary-treasurer of the J. L. Hudson Co., Detroit, is vice-president; Sol Meyer, banker, Indianapolis, is treasurer, and M. G. Pierson, formerly of the Kelsey Wheel Co., Detroit, is secretary. W. H. Ducharme, treasurer of the Kelsey Wheel Co., is also interested in the concern.

Overland Declares 48-Hour Week

TOLEDO, O., August 6—Forty-eight hours will constitute a week's work for the 20,050 Willys-Overland factory employes after November 1. Though the regular hours of all employes will be reduced from 50 to 48 a week, no reduction in wages is to be made. Under the new schedule, time and one-half will be paid for all overtime and double time will be paid Sundays and holidays.

Chevrolet Takes Mason Stock

FLINT, MICH., August 6—Complete linking of the Mason Motor Co. with the Chevrolet Motor Co. has been accomplished by the acquisition of the remainder of the Mason stock by the Chevrolet company. Ground has been broken for an addition to the Mason plant and 20 more acres of ground have been secured.

Hercules Producing 10 Cars a Day

LOUISVILLE, KY., August 6—The Hercules Sales Co., which controls the selling rights for the Hercules car, has moved its offices from the Starks building to the plant of the Kentucky Wagon Mfg. Co., where the Hercules is now manufactured. The output at present is 10 cars a day.

Houdaille Shock Absorbers for Mercer

NEW YORK, August 9—Clodio & Engs, Inc., American distributor of the Houdaille shock absorber, has received an order from the Mercer Automobile Co., Trenton, N. J., for Houdaille equipment on its 1916 production. The firm has started the manufacture of Houdaille shock absorbers here.

Facts About Cars

Spark Advance and Economy

There is a limit to the amount the spark can be advanced to improve the economy of the motor. The spark-lever should be set so that the greatest power is obtained from the charge. This means that it should merely be advanced to this point. Further movement will cause a decrease in economy. Under a given set of operating conditions the economy is greatest when the motor is operating most efficiently.

Figs. 1, 2 and 3 illustrate three indicator cards, the one at the top showing the effect of very early ignition, the middle one point of best ignition, and the lower one too late position of the spark. The horizontal distance represents the piston stroke to a certain scale and the vertical distances the pressures in the cylinder at various piston positions. The cross indicates the time of the spark in each case.

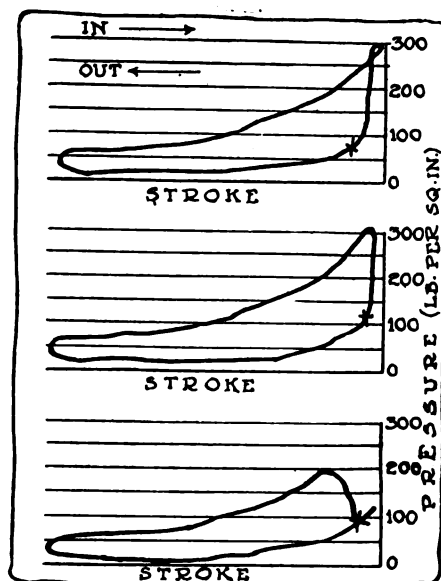
It will be noted that the center diagram has the largest area and, as the area is proportional to the power developed, it will be seen that this diagram indicates the greatest power development, or, under a given set of conditions, this position of the spark is the best for economy.

The spark occurs just before the piston reaches the top of the stroke, combustion takes place almost immediately, and the pressure rise is indicated by a line that is almost vertical. About the time the pressure has become a maximum, the piston has started out on the power stroke and expansion begins.

With the spark advanced too far, as shown in the upper diagram, the area is reduced. The spark in this case occurs considerably before the piston has reached the top of the stroke, with the result that the explosion line is farther to the left. Nor is it quite straight because the piston is moving fast enough at this point so that it moves an appreciable distance while combustion takes place. Since the pressure rise is probably completed before the piston gets to top dead center, the gas is slightly compressed during the completion of the up-stroke. This may form a slight loop at the apex.

When the spark is retarded, the piston has already started on the expansion stroke before the ignition takes place. This causes the compression line to double back on itself until the point of ignition is reached, when there is a rapid rise of pressure. The top of the card is rounded off, however, due to the acceleration of the piston.

Thus it is seen that with the spark advanced or retarded too far the area is



THE INDICATOR DIAGRAM

Fig. 1—Upper—Too early ignition. Fig. 2—Center—Spark correctly timed. Fig. 3—Lower—Spark too late

reduced and consequently the power is also.

Long and Short-Stroke Motors

Within the limits found in ordinary practice, the short and long-stroke motor will develop the same power, providing the piston displacement and speed are respectively equal. Consider two four-cylinder motors with 300-inch piston displacement. The long-stroke motor has a small bore and the explosion pressure acts on a piston of small area, but this is offset by the fact that the pressure acts throughout the long stroke. In the short-stroke motor the explosion pressure acts on a piston of large area and this compensates for the fact that the stroke is short.

The advantage of the long-stroke motor lies in the fact that for a given piston displacement it has a smaller bore than the short-stroke motor, the pistons are smaller and lighter and the motor may be run at a higher speed, because light pistons and connecting rods do not vibrate as much as heavy ones; and it is by increasing the motor speed that the small-bore, long-stroke motor is made to give more power than the large-bore, short-stroke motor of the same size.

How Tire Pressure Increases With Heat

A series of curves for determining the increase of tire pressure with temperature is shown in Fig. 4. For example, if the original temperature is 60 degrees and the tire pressure 70 pounds,

then the point representing these two quantities is located on the diagram. Supposing that the temperature increases to 95, the new pressure is found by following the diagonal running through the point just determined until the intersection of this diagonal with the 95-degree temperature line is reached. The pressure line running through this point indicates the new pressure, which in this case is 76 pounds.

The Cause of Backfire

A backfire is possible with either a weak or rich mixture, although more common with the former, because a weak mixture burns more slowly.

The backfire starts in the cylinder and is due to the presence of flame in the combustion chamber when the intake valve opens to take in a fresh charge. If the combustion of the charge is very slow there will be a flame in the cylinder, not only all through the power or expansion stroke but also through the succeeding exhaust stroke, so that what gas remains in the cylinder when the exhaust valve closes and the intake valve opens is still incandescent and sets the fresh charge on fire.

Ordinarily a backfire can only be produced by a weak mixture at high speed, say 1,000 r. p. m. or over, although with a very weak mixture, or a very late spark, a backfire may be produced at a much lower speed, say 800 or less.

It is possible to make the motor backfire by using too rich a mixture also, but the over-rich mixture burns faster than the one that is too lean and therefore the former is generally burned out before the intake valve opens.

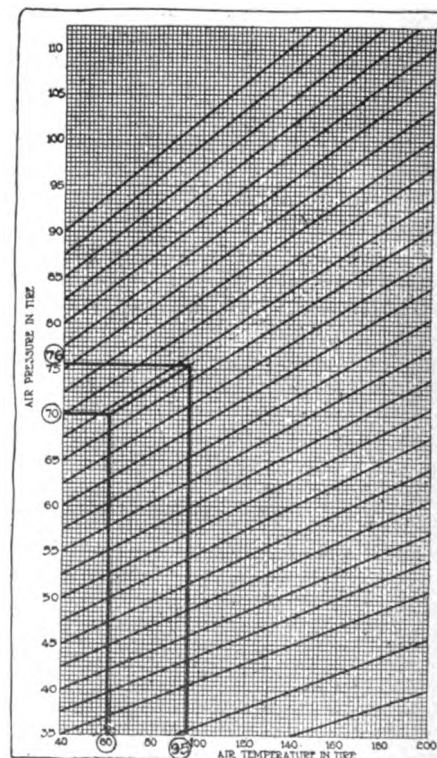


Fig. 4—Tire pressure rise with temperature.

Vote for Best Month For Your Annual Show

Mail Ballot at Bottom of This Page

INCLUDING the National events in New York and Chicago, the dealers in 76 cities held motor car shows during the latter part of 1914 and the early months of 1915. Of these 76 shows, 11, or 15½ per cent, were held between September 1 and December 1 and therefore may be styled Fall shows. The remainder, or 84½ per cent, were held between December 1 and April 1 and may be styled Mid Winter or Spring shows.

Because the majority of shows occur during the late Winter or the early Spring, is this the best time for a show? Or is the annual show held between November and April simply because it has become a habit to hold it between these dates? Is the Mid Winter or Spring show merely following precedent established by the great National events in New York and Chicago?

That the sentiment for an earlier show—a show in the Fall of the year—is growing, admits of no dispute, and there are many reasons why this should be so. Nine manufacturers out of ten now are announcing new models during the Summer months; this makes a Fall show logical because all the new models then can be shown together **WHILE THEY ARE NEW.**

Throughout the great West, where the farmer wields the balance of power insofar as ability to purchase is concerned, a Fall show is the logical show. The farmer has harvested his grain, his surplus is in the bank and he is ready to purchase.

Another reason why a Fall show should prove of benefit to the dealer is that it permits him actively to push the closed car.

But this opportunity must be grasped at the proper time, and that time is in the Fall. Asked why he did not display closed cars along with open ones at one of the great shows held during last Mid Winter, one dealer stated that time was too late. Half the time when closed cars are used had passed. If this show had been held in the Fall this dealer would have exhibited closed cars and undoubtedly would have closed many sales for them.

Arguments for the Mid Winter or Spring show probably are just as many, but it is a question whether they are as convincing. Agitation in favor of all manufacturers making their announcements at the time of the National shows in New York and Chicago is growing in strength. If action to this end should be taken, these shows would be great in something more than name. Their greatest value lies in the fact that they come, theoretically at least, at the beginning of the touring season.

But these are purely manufacturers' shows. What of the dealer? What of the man who is selling cars in some of the smaller Western and Southern cities? Is the Mid Winter or Spring show the best for him? Does a show at this time bring him as much business as one held in the early Fall?

This is the question that is coming up right now all over the United States. The question is not new. It is almost as old as the County or State Fair. Dealers long since found out that they profited by an exhibition at these annual functions all over the country, and at present there is scarcely a State fair that has not its motor car exhibition.

Tear off the voting coupon herewith and mail it to

Motor World. Place a cross beside the month in which you think the show in your city should be held. Send a letter with it giving your reasons for the choice.

When the 1914 Shows Were Held

SEPTEMBER		FEBRUARY—Cont.	
14-18.....	Milwaukee	15-20.....	Bridgeport, Conn.
OCTOBER		15-20.....	Tacoma
3-10.....	Cincinnati	9-12.....	Peoria, Ill.
3-10.....	Sedalia, Mo.	15-20.....	Greensburg, Pa.
5-10.....	St. Louis	16-18.....	Bloomington, Ill.
12.....	Boston*	18-20.....	Racine
15-20.....	Pittsburgh	17-20.....	York, Pa.
17-23.....	Los Angeles	22-25.....	Allentown, Pa.
17-30.....	Dallas	22-27.....	Duluth
NOVEMBER		22-27.....	So. Bethlehem, Pa.
14-21.....	Providence	22-27.....	Grand Forks, N.D.
9-12.....	Eau Claire, Wis.	22-27.....	New Haven
18-Dec. 4.	New Bedford	23-27.....	Ft. Dodge, Ia.
DECEMBER		23-27.....	Syracuse, N. Y.
12-19.....	Akron	24-27.....	Battle Creek
18-20.....	San Antonio	MARCH	
JANUARY		1.....	Portland, Ore.
2-9.....	New York	1.....	Sioux Falls, Ia.
8-14.....	Milwaukee	1-5.....	Wilkes-Barre, Pa.
9-16.....	Philadelphia	1-6.....	Utica
16-23.....	Detroit	1-6.....	Fargo, N. D.
16-23.....	Cleveland	2-9.....	Brooklyn, N. Y.
18-23.....	Rochester	2-9.....	Benton Harbor
19-23.....	Baltimore	3-6.....	Watertown, N. Y.
23-30.....	Montreal	6-13.....	Boston
23-30.....	Chicago	8-13.....	Indianapolis
25-30.....	Buffalo	8-13.....	Des Moines
30-Feb. 6.	Minneapolis	13-20.....	Harrisburg, Pa.
30-Feb. 6.	Columbus	13-20.....	Pittsburgh
FEBRUARY		22-27.....	Bangor, Me.
1-6.....	Louisville	24-27.....	Bethlehem, Pa.
1-6.....	Scranton	24-27.....	Oil City, Pa.
3-6.....	St. Joseph, Mo.	25-27.....	Mason City, Pa.
8-11.....	Peoria	25-27.....	Saginaw, Mich.
8-13.....	Salem, Mass.	23-28.....	Phoenix, Ariz.
8-14.....	Troy, N. Y.	22-27.....	Springfield, Mass.
9-12.....	Eau Claire, Wis.	30-Apr. 2.	Johnstown, Pa.
10-13.....	Davenport, Ia.	APRIL	
15-20.....	Omaha	5-10.....	Du Bois, Pa.
15-20.....	Grand Rapids	12-17.....	Faterson, N. J.
		21-25.....	Calumet, Mich.
		25-27.....	Appleton, Wis.
		25-27.....	Milwaukee
			*Small car show.

Vote Here—Tear Out—Mail

.....1915
Motor World,
239 West 39th St., New York

I am in favor of holding the annual show in the month checked.

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

JANUARY

FEBRUARY

MARCH

APRIL

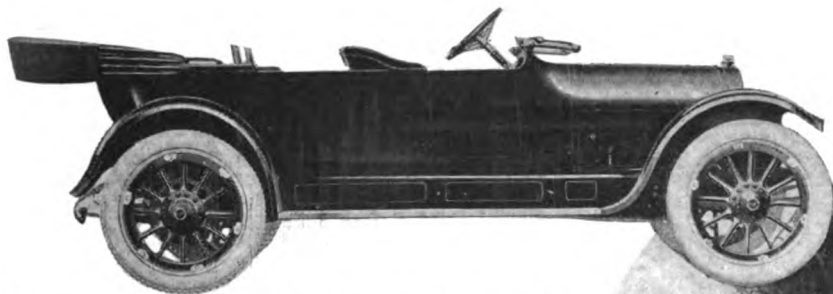
Signed

Position

Company

Address

Overland Six Is Reduced \$330 to \$1,145



Camshaft Driven by Helical Gears—
Accessibility Increased

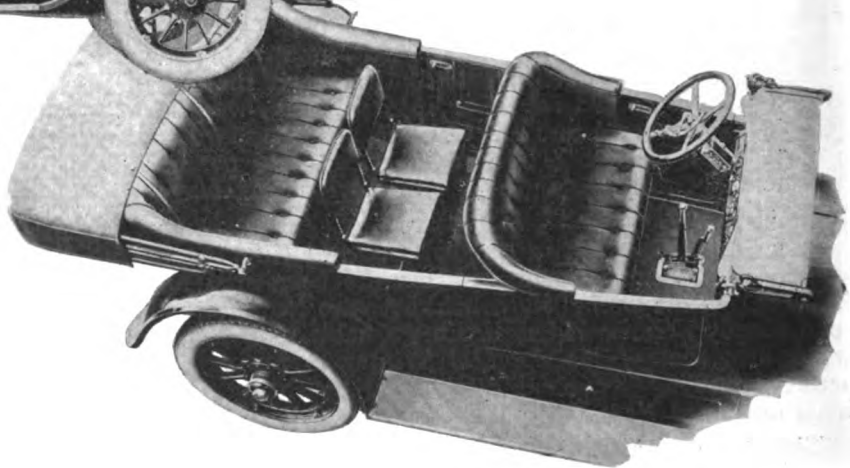
No great change has been made in the external appearance of the Overland six

DESPITE a reduction in price of \$330, no alterations of a radical nature have been made in the six-cylinder model produced by the Willys-Overland Co., Toledo, for the forthcoming season. The new price, including the usual equipment, is \$1,145, instead of the former price of \$1,475.

The 1916 motor is considerably different from the 1915 six, having helical timing gears instead of those used previously.

By this change some weight has been cut out and the engine rendered much neater and more accessible. Regarding the valve side of the motor, the generator and magneto are driven in tandem from the water pump shaft, and all three accessories are placed low enough to clear the valves. It should be added that the accessibility is actually better than it appears, as the generator stands well away from the side of the crankcase. The use of leather disk couplings between pump and generator and between generator and magneto prevents noise and also eliminates the possibility of slack.

On the valve side of the engine the large exhaust manifold is noticeable. This has a vertical division inside, extending



Roominess is a feature of both tonneau and front compartment

from about the middle of the length right back to a point just above where the exhaust pipe is attached.

The reverse side of the motor bears the carburetor and the starting motor, the former being a special form of horizontal instrument attached directly to the cylinder block, where it is extremely accessible. All the air for the carburetor is drawn through the cylinder casting, entering at a hole concealed by the exhaust manifold and reaching the carburetor by a curved pipe. The starting motor is placed high up, where it is out of the way of dirt, and the Bendix drive is accessible for the occasional lubrication which it needs.

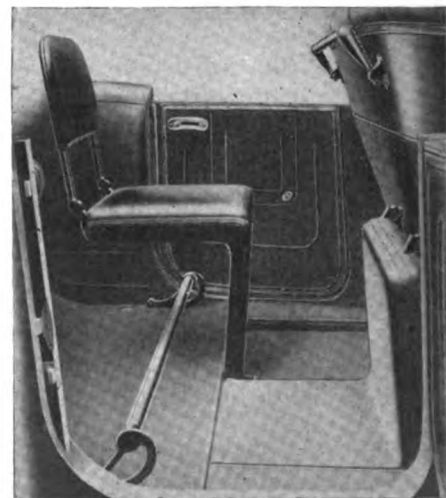
Lubrication is a combination of force and splash, a plunger operated from the camshaft sending oil to the main crankshaft bearings, the pump shaft bearing and the timing gears. Troughs catch the overflow and dippers on the connecting rod caps distribute spray to all parts of the motor. A large diameter shaft and very rigidly supported bearings eliminate vibration.

An aluminum cone clutch with a leather facing is used, but there are three springs instead of the more usual one. Spaced equally around the clutch cone these light springs are ideally accessible for adjustment and there is no need for the exercise of any very special precaution to see that all are at the same tension since inequalities are compensated for by a floating spider inside the flywheel. Cushion springs beneath the leather are used to ease the engagement.

Though the after part of the chassis is similar in appearance to the Overland

four, the axle is strengthened in proportion to the heavier stresses it has to bear. It is a floating type with the road wheels mounted upon double rows of Timken taper roller bearings. For the differential the four pinion bevel pattern is used and there are large Timken bearings to support it and the crown wheel. The driving shafts can be withdrawn through the hubs, and the axle case is strengthened by the use of truss rods.

Located on the axle is the ball bearing three-speed gearset, and there is a torque tube containing the propeller shaft, in accordance with Overland prac-



The auxiliary seats fold out of sight

tice. The single universal is located well forward in the chassis, where it is completely protected and easy of access for lubricating purposes.

OVERLAND SIX IN BRIEF

Price, touring	\$1,145
Color	Dark green
Make of motor	Continental
Number of cylinders	Six
Shape	L-head
How cast	Block
Bore	3 1/2
Stroke	5 1/4
S. A. E. rating	29.4
Magneto	Splitdorf
Starting-lighting	Autolite
Clutch	Cone
Gearset	3-speed
Wheelbase	120
Tires	35 x 4 1/2
Wheels	Wood
Steering	Left
Control	Center
Make of axles	Overland
Type rear axle	Floating

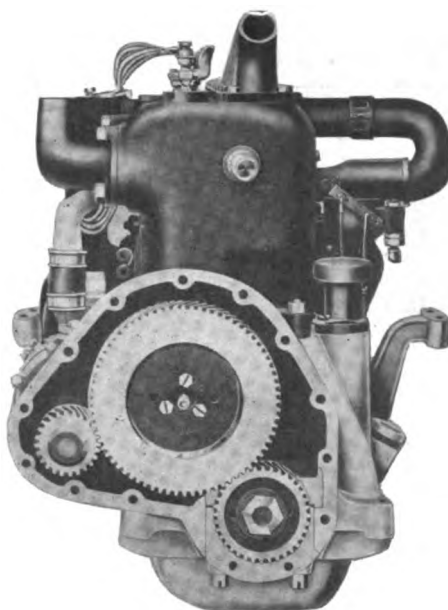
A feature of the car are the large brakes, which provide great arresting power with smoothness of action.

A point in the design which has had special study is the location of the controls which the driver requires. The accelerator is situated in the natural resting place for the right foot, the right hand rests easily upon either the gear or emergency brake levers, and the lamp and ignition switches are all together in a little control box clipped to the steering column. The speedometer dial is central in the cowl board, flanked by the ammeter and the oil pressure gauge, all being illuminated by a dash light which is always burning when the headlights are in use with or without the dimmer. All the switches can be locked by a turn of a key at the bottom of the control box, so preventing interference with any circuit. For operating the starter there is a toe button, as the Bendix drive needs only a switch for its complete operation.

The springs are especially good and their easy action is aided by an ample depth of upholstery, but the long three-quarter rear springs do not create much roll when rounding a curve at high speed, and it is also noticeable that the rebound is slight. In the tonneau there is length enough to accommodate both the rear passengers and those on the folding seats without any cramping, while setting the small seats towards the middle of the tonneau clears the doors of obstruction.

The high sides and the straight line of the body are well shown in the illustrations, which also do justice to the smoothness obtained by the concealed hinges and inside door handles. Great attention is paid to the rigidity of the fenders and runningboards; in fact, it is possible to stand on the fender and rock the car on its springs without producing any deflection on the fender itself.

The standard equipment includes all the usual accessories and a spare demountable rim, tires being 35 x 4½, with non-skid treads on the rear. The attachment of the one person top is such



The camshaft is driven by helical gears

that the windshield can be laid flat or otherwise manipulated when the top is up just as readily as with the top down, which makes greatly for comfort in hot weather.

Transcontinental Tour to Introduce Sun

BUFFALO, August 10—To introduce the Sun Six, which is to be manufactured by the Sun Motor Car Co., recently formed in this city, three cars will be started on transcontinental tours in the near future. Besides introducing the car the runs will also serve as tests.

The unit power plant will be L-head, 3 x 5, high-speed, high-compression and developing 50 horsepower on the block. Both the intake manifold and hot air connection will be cast in the cylinder blocks. Reciprocating parts will be light. The clutch will have three dry plates, and the Stewart vacuum feed will be standard equipment. Irreversible steering will be fitted and springs will be half-elliptic. A Brewster green body with black running gear will be the only combination. The same chassis will carry either a roadster or five-passenger tour-

ing body. The price will be about \$1,000.

Territorial managers have been named as follows and with the headquarters indicated:

Ohio and Pennsylvania—C. H. Davies, Cleveland.

Michigan, Iowa and northern Illinois—G. A. Coats, Chicago, formerly of Kalamazoo.

Arkansas, Mississippi, Louisiana, southern Illinois, eastern Missouri and parts of Indiana, Kentucky and Tennessee—James E. Newell, Newell Motor Car Co., St. Louis.

Kansas, Oklahoma, Texas and western Missouri—G. A. Jones, Kansas City.

Vermont and New York, excepting New York city—A. L. Dixon, Buffalo.

License Ownership Insufficient Evidence

The mere fact that a garage company is the owner of certain license plates is not enough to charge it with liability for injuries caused by a car bearing those plates, according to a recent New York decision.

The dealer admitted owning the plates, but showed that at the time the accident occurred the car to which they belonged was in such a dismantled condition, undergoing repairs, that it was impossible to use it.

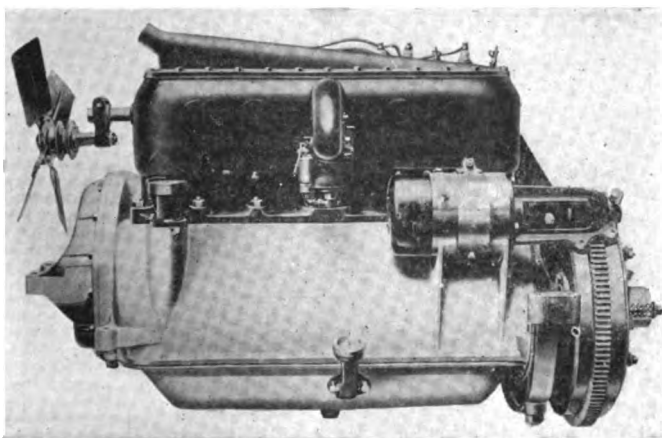
The court held that though the car which caused the injury did bear the dealer's license plates and was evidently driven by a former vice-president of the company, those facts merely raised a presumption of ownership which could be rebutted by proof of the dismantled condition of the car and of the fact that the vice-president was no longer connected with the dealer company.

Trucks Coming from Elmira

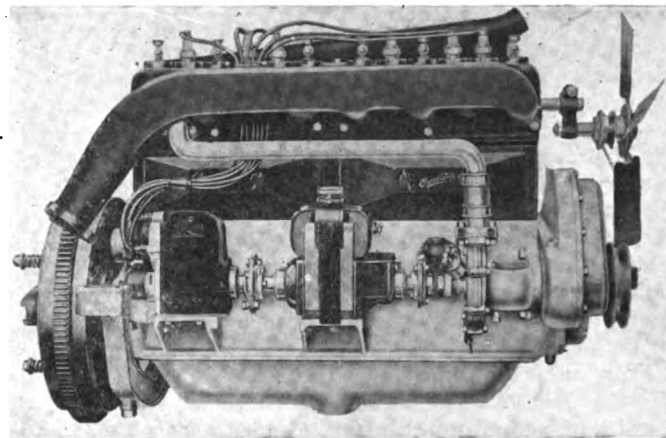
ELMIRA, N. Y., August 9—The Elmira Commercial Motor Car Co. has been incorporated with a capital stock of \$500,000 and will manufacture commercial vehicles. Henry Bush, Albert Von Beaulieb and George Gebbie, of Elmira, are the directors.

A \$500 Order

Page 5



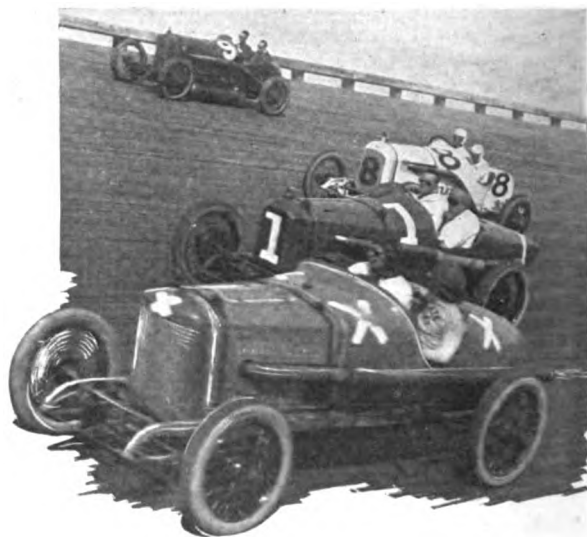
The starting motor is mounted high and drives through a Bendix gear



Magneto, water pump and generator are driven in tandem from front end

Resta's Chicago Challenge Race at 101.86 m.p.h.

Cooper, Stutz Driver, Finishes 52 Seconds
Behind the Peugeot—Burman Not
a Factor After 42 Miles—
Oldfield's Delage Fails



One lap after the start, showing how Burman hugged the upper rail of the track; Oldfield is in the pole position with Resta beside him and Cooper in the white Stutz near the center of the track

TIMES IN CHICAGO CHALLENGE RACE AT EVERY 10 MILES

Driver	10	20	30	40	50	60	70	80	90	100
Resta	5:45	11:31	17:22	23:10	28:58	34:49	40:41	47:19	53:08	58:42.2
Cooper			17:22	23:10	28:58	34:49	40:41	47:04	53:50	59:34.4
Burman			17:23	23:10	30:30	36:17	42:59	48:47	54:35	61:22.4
Oldfield			20:01	26:22	34:06	40:21	47:51	55:26	62:31	Out

CHICAGO, August 7—The distinction of winning the first motor car race in America at a speed of over 100 miles per hour was carried off by Dario Resta on the 2-mile board speedway here today, who won the 100-mile challenge race at a pace of 101.86 miles per hour and defeated his three rivals, Cooper in a Stutz, Burman in another Peugeot and Oldfield in a Delage. Resta put his Peugeot over the 100 miles in 58 minutes, 54.2 seconds, finishing 52 seconds ahead of Cooper, who was the only real rival he had. Burman was nearly 3 minutes behind, having had two stops for tire troubles as compared with one stop each by Resta and Cooper; and Barney Oldfield, whose new Delage with four carbureters was not well tuned up, stopped at the end of 96 miles, having been lapped several times by the other drivers. Cooper's average was 100.58 and Burman's was 97.78.

20,000 Watch the Race

Fully 20,000 spectators, sprinkled through the huge grandstand, in the bleachers on the backstretch and in the parking spaces in the infield, watched the 100-mile challenge duel, the first of the kind ever held on a speedway in this country. The weather was perfect and the track in perfect condition. The four cars were sent away to a flying start, Oldfield having drawn the pole position acting as pacemaker. Resta was second from the pole, Cooper third and Burman on the outside.

From start to finish the race was Resta's. His Peugeot had the necessary speed, although from the start Cooper disputed the laps with him. Burman had apparently a lot of speed, but when he

began to show it he ran into tire trouble and fell behind, leaving Resta and Cooper to dispute the lead. Both Resta and Cooper changed one tire each. Resta changed a right rear at 74 miles and momentarily Cooper shot his Stutz into the lead, the crowd cheering to the echo as the Stutz entry was the real hero of the day with the grandstand and bleachers. Resta made the change in 35 seconds but was nearly 56 seconds behind Cooper when he got going again. This put him nearly three-quarters of a lap behind.

Tires Held Cooper Back

He started setting a faster pace to overtake the Stutz, but at 80 miles Cooper was seen to slow up on the backstretch, a right rear tire had given way and he had to travel at reduced speed for a mile to the grandstand pits. In the meantime Resta had seized the moment and was back in the lead.

Before Cooper could make the change and get out, Resta had a lead of 51 seconds, or nearly three-quarters of a lap. With only 20 miles to go, Resta at once slowed down from a momentary pace of nearly 110 miles per hour to 102, and held it until the finish. In the meantime Cooper was pushing his Stutz giant each lap, but there was not enough time remaining to overcome the Italian's lead and he finished 40 seconds behind the winner.

The average speed of 101.86 miles per hour for the century does not represent the real speed of the race, the stops made by Resta and Cooper cutting the speed from 104.35 m. p. h., which these leaders had maintained from the start to over the 75th mile, when tire trouble began.

Many expected that the pace would be much faster at the start, as it had been in the opening 500-mile race in June, but the drivers apparently profited by the experience and decided to hold a rather conservative pace at which the tire troubles would be a minimum. Last June the pace set at the start was 108 m. p. h. and tire troubles started at 17 miles, and before 25 miles were covered there were many tire changes.

Pace Averages 104 m.p.h.

Today the pace for the first 10 miles was only 104 m. p. h. and practically this pace was maintained until the finish. The first five laps are a fair criterion of the speed and follow: Lap one, 104.41; lap two, 104.35; lap three, 105; lap four, 104.65, and lap five, 104.65 m. p. h. From the 10-mile mark the pace was a steady one up to time of the tire troubles.

From a spectacular viewpoint there were some tense moments in the 58 minutes of racing, but the grandstand did not have all the chances to applaud that it wanted. The start was perfect. All four cars were sent on a paced lap with Oldfield at the pole setting the pace. During the first half of the lap Burman lagged 100 yards back, but at three-quarters he was lined up and riding the top of the track with the other three nearly abreast at the pole. As the tape was approached the pace was easily 90 miles per hour and all four crossed in a row, the red flag fluttered and they were off on what proved to be the pace-setting century.

Resta and Cooper Battle

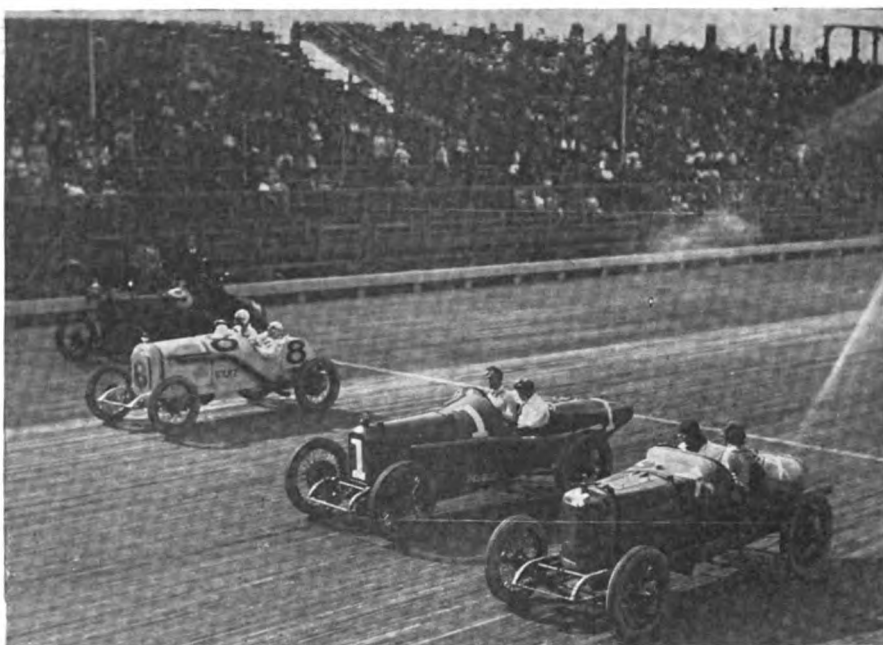
Before the quartette was out of the homestretch and into the first curve Resta and Cooper were battling for first place, and Oldfield and Burman were dropping to the rear. Up the backstretch Resta led Cooper by two lengths, with

Burman 50 yards back and Oldfield a hundred yards to the rear. Resta crossed the tape not over two lengths ahead of the Stutz.

Lap two brought the first sensation, Cooper putting the Stutz into the lead at three-quarters and leading the Peugeot over the tape by three lengths. It was what the crowd wanted and it cheered. Burman was not 100 yards back, a position he held for nearly 20 miles. Lap three saw another change, Resta passing Cooper on the backstretch and leading over the tape by three lengths. The pace was 105 m. p. h. Lap four brought a thrill when Cooper and Resta were practically side by side, Resta leading by 2 feet. The next lap was Resta's by a length; so were the next three, but lap nine brought Cooper into the lead with a margin of two lengths. So the see-sawing continued. Resta led for three more laps, then Cooper took three in a row. Resta then took three more, Cooper sandwiched in one; then they alternated for three or four more laps, scarcely a length separating them. Resta would pull away on the straights and Cooper would ride fast on the bank and overhaul the Peugeot. This continued until the tire episodes at 74 miles, when the grandstand had its turns in cheering for respective favorites.

Burman Once a Factor

Burman furnished his sensational burst of speed at the 20-mile point. Up to this time he had been trailing nearly 100 yards behind Resta and Cooper. Suddenly he started, picking up a few yards on each lap, almost imperceptibly, when suddenly at the 26th mile he was on the heels of the leaders and crossed the tape actually a few inches ahead of Resta but a few inches behind Cooper, who was leading. It was one of the spectacular points of the race. The cars could not have been closer, and traveling



The start of the challenge race was spectacular. After a paced lap, with Oldfield as the pace-maker, the starting flag fluttered. Resta and Cooper were battling for the lead before the finish of the first lap

at over 105 m. p. h. It was the moment the crowd had waited for; they were all on their feet, the air was filled with cheering. But this three-cornered duel, while not so spectacular, continued for the next 20 miles, Burman being mixed in the group at the end of each lap.

The pace proved too much for his tires and at 42 miles he dropped back and had to change a right front, leaving Cooper and Resta to battle for the honors. From this time Burman was not up in front or near it again. He ran 20 seconds back, some laps gaining a few seconds only to drop them in others. At 72 miles he stopped again to change a right rear tire. Arty driver who has to make two tire stops in a 100-mile race has little chance of winning.

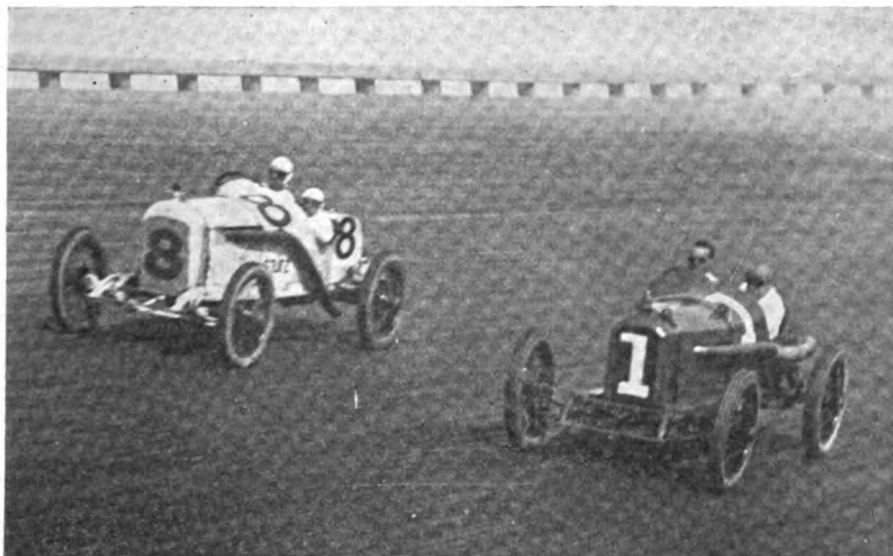
Oldfield's tire troubles started earlier

than might be expected for the pace he was setting. It was in the 52nd mile when coming down the homestretch ahead of Resta and Cooper, who were about to lap him the second time, that a right front tire blew, but his car never wavered. He stopped on the next lap and made a rapid change in 18 seconds. He made two other stops.

Although a pace of 101.86 miles per hour is a high-water mark in America and marks the first time that 100 miles have been crowded into one hour, faster times have been made abroad and America must try once more before she can claim world's marks for speed. Percy Lambert, the British driver, in February, 1913, drove an English Talbot car 103 miles, 1,470 yards, or nearly 104 miles in 1 hour. Later, Chassagne drove the twelve-cylinder English Sunbeam 107 miles in an hour. With these marks to shoot at it will not be surprising to see some interesting 100-mile races before the close of the present season on American speedways.

Astor Cup for Sheepshead Opening

NEW YORK, August 9—When the Sheepshead Bay Speedway opens on October 2, the 350-mile inaugural race will be for a perpetual trophy offered by Vincent Astor. The event will be styled the Vincent Astor cup race. Originally it was intended to have the first race styled American cup race. This will be contested at a later date.



From the first, the race was between Cooper and Resta and the pace was held consistently at nearly 104 miles an hour. At times only inches separated these two drivers

A \$500 Order

Page 5

Des Moines 300-mile Race Goes to Mulford

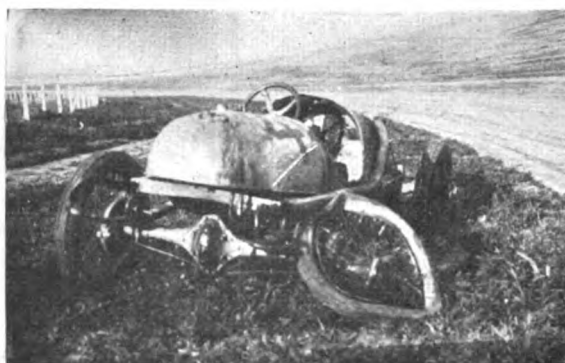
De Palma Is First Declared Winner But Recheck Puts Duesenberg Pilot in Front—Winner Averages 87 m.p.h.—Two Accidents Mar the Day's Sport

DES MOINES, August 8—The new 1-mile board speedway was opened in this city today by Ralph Mulford who won the 300-mile race at an average speed of 87 m.p.h. He defeated by 1 minute and 7 seconds Ralph De Palma, who drove a Stutz and who was announced winner after the race. Owing to the speed, the 1-mile track, and inadequate timing arrangements, an error was made in the announcement, and after hours of checking the lap records, Mulford was declared winner and entitled to the \$5,000 for first place, De Palma receiving \$2,000 for second position.

The opening of this new speedway was unfortunately marred by two accidents, each of which resulted fatally. Joe Cooper, Sebring, O., driving a Sebring, blew a tire in the thirty-ninth mile when running in second place, and close to De Palma's Stutz. The accident happened when traveling at 90 m.p.h., and at the end of the turn into the home-stretch. Cooper's left rear tire blew, swerving the rear end of the machine toward the inside of the track and putting the car at right angles on the circuit. Cooper fought to hold it on the track and succeeded in keeping it from running off the inside only to have it skid a distance of 30 feet into the railing at the top. This railing crumpled like tissue paper, and the car with the driver and mechanic fell over sideways to the ground below. Cooper was caught beneath the edge of the machine and died immediately. His mechanic, Peio, was thrown clear out of the car.

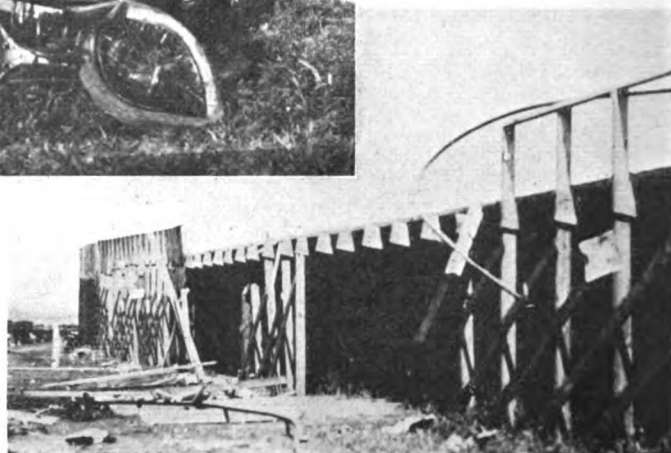
The other accident occurred in the two hundred and fortieth mile when William Chandler, traveling in fourth place, went off the track at the inside due to the breaking of the left rear wheel. Before going off the track the car skidded half way up the board surface on the back turn, then turned over, and landed through the guard fence 50 feet from the inside of the track. Chandler and his mechanic, Keller, were thrown clear, but Keller died a few hours later due to a combination of injuries, and Chandler is in a precarious condition.

The race from start to finish was a masterly fought duel among Mulford, in a Duesenberg, De Palma in a Stutz, and O'Donnell in another Duesenberg. It was either Mulford's or De Palma's race until 297 miles had been covered when



The wreck of the Sebring car that was driven by the ill-starred Cooper. The car swerved and went through the railing at the top of the saucer

The Des Moines speedway is a 1 mile board track without retaining walls. The illustration shows the great gap in the wooden railing through which Cooper's car plunged



the two were running wheel to wheel, and had been for 20 miles, when De Palma blew a tire, and although he made a speedy change, it was impossible to

and O'Donnell in his Duesenberg pushed to the front.

Mulford made his first stop at 105 miles for tires, but due to his lead and a quick change he was able to maintain leadership. He succeeded in holding it until near the two hundredth mile, when O'Donnell took the lead due to tire troubles by Mulford. O'Donnell carried off the \$100 for leading at the second century, the average being 86 m.p.h.

De Palma was leading when O'Donnell's chances vanished due to his going to the pits for tires at 270 miles. This left Mulford and De Palma, masters of track and road driving, to fight to the bitter end, and it was a great race between the two. De Palma held a slight lead until 289 miles when Mulford led him by a length. The two fought mile after mile on even terms until 294 miles, when De Palma took the lead and seemed a certain winner, barring tire troubles. Mulford was close behind and when De Palma's luck turned at 297 miles and a tire blew, it was Mulford's race.

Brown took fourth place with his Du Chesneau, and Barndollar was fifth in the Clergy. Henderson in the Cooling was sixth, Shrunk in the White seventh, and Alley in the Ogren eighth and last.

The other starters in the contest were not factors, with the exception of Cooper, whose elimination came early. Chandler, who had fought up to fourth place with his Duesenberg at 225 miles, gave promise of being a factor at the finish, but was flagged out by fate at 239 miles. Tom Alley in the Ogren was running fifth but experienced motor difficulties. The O'Connell entry was out at the end of the eighth lap with engine trouble, and the White six, entered by Shrunk, went first to the pits at the thirty-second mile.

ORDER OF FINISH DES MOINES 300-MILE RACE

Driver and Car	Time
Mulford, Duesenberg....	3:27:05.33
De Palma, Stutz.....	3:28:12.02
O'Donnell, Duesenberg..	3:21:45.51
Brown, Du Chesneau....	4:26:22.18
Barndollar, Clergy.....	4:40:35.02
Henderson, Cooling....	5:01:43.25
Shrunk, White.....	5:09:54.13
Allen, Ogren.....	5:10:13.08

catch Mulford. De Palma had tire difficulties all the way through the race, which kept him back at crucial points.

From the start, which was a flying one, De Palma took the lead until the thirty-ninth mile, when he stopped for tires,



JOE COOPER

Let Accessory Customer Help Sell Himself

Put the Display Fixtures and Parts of the Stock Where He Can Get His Hands on Them—It Arouses Desire

By Ray W. Sherman

"GOT your car?" asked Ben Doyno, as Reilly picked up the bundle that Bett had just wrapped up for him and started for the door.

"Nope! Jitneying today," laughed the car dealer, who still continued on his way toward the door of Callawassa's leading supply store.

"Well slow up a bit and don't be in such a hurry and I'll save you a nickel," retorted Doyno, the supply dealer.

"That's an inducement. I'll do that." And Reilly plunked his bundle down on the counter and abruptly halted his streetward course.

Louis Is Stirred Up

"I'm going up to see Louis Beauregard," explained Doyno. "Ever since he cleaned the dirt out of the corners of his garage and started in to run a regular place he has been after me to come up there to give his place the once over. He thinks I'm an authority on accessory and supply merchandising and he wants me to inspect his place."

"Good idea!" exclaimed Reilly. "That Dealers' National Weekly certainly got Louis stirred up. He's finding something to improve every day. I saw him the other day, and what do you think his latest is?"

"Can't guess."

"He's going to paint the whole inside of his place white—pure white—and he says it's going to stay white right down to the floor if he has to paint it over again every week."

"Bully for Louis! Fine biz!" beamed Doyno. "He's some energetic boy when he gets started. All he needed was the start. He—"

"Nice Little Store You've Got"

"Wait a minute until I drop this bundle and I'll ride up with you!" said Reilly as they neared the salesrooms of C. J. Reilly, Inc., where a bright, new Sennett touring car reposed in a fern bedecked window. Doyno waited.

"Ah-h-h! Good morning, gentlemen!" beamed Louis, when the pair approached his door. "You are veri welcome, indeed;" effervesced the Frenchman. "Come in! Come in!"

"Some nice little store you've got now, Louis." Doyno looked all around, at the shining clean show case, the brightly polished goods, the neatly arranged cabinets on the walls and the

cabinet which fronted on both the office and the garage runway.

"Ah-h-h! You theenk so! I am pleased, veri pleased!"

Doyno and Reilly wandered around the store, out into the garage, into the office and all over the place. Everywhere were evidences of the clean-up campaign of the proprietor. Out in the garage floor a man with soap and water and a broom



"This is an accessory store, not a graveyard! Get 'em out where people can get at them!"

and mop was eradicating all traces of grease, grime and oil. Louis, when he put his new methods into practice, made it an ironclad rule that the whole garage floor should be scrubbed every day. Some days it didn't need it and it kept one man busy several hours, but Louis, once he started in to clean up and keep clean, went at it with a vengeance.

Back in the combination office and accessory store Doyno and Reilly continued to admire. Doyno walked around behind the counter, poked the button of a hand horn on a display fixture, looked into the corners and decided Louis ought to get some business. In fact, Louis said he was getting it.

"But why don't you put that horn display stand out here on the show case?" asked Doyno.

"Ah-h-h! A reason!" Louis held up a finger.

"A reason?"

A Reason That Was Wrong

"Yes! The stand shows the horn just as well if it sets over behind the show case at the bottom of the cabinets, and if it is back there it keeps every one from pushing the handle and making a noise and monkeying with it."

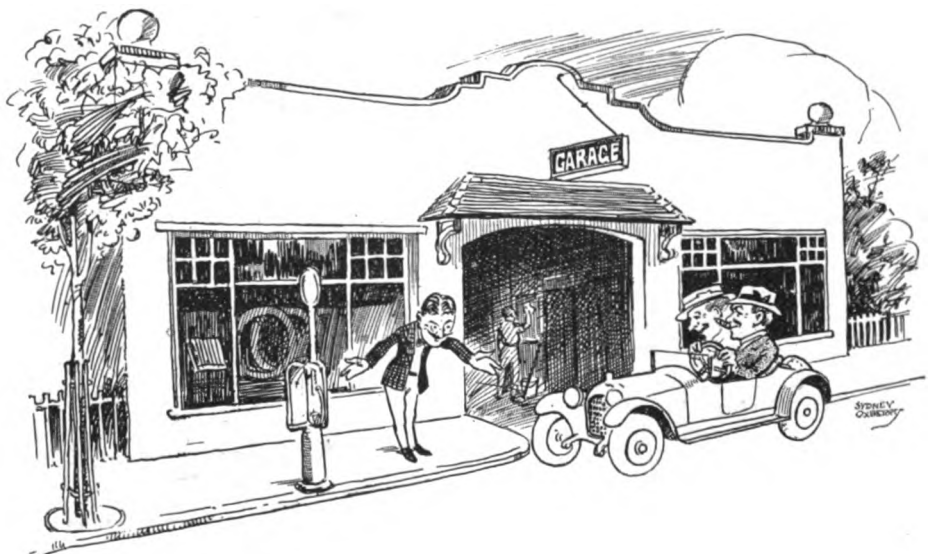
"But you want them to monkey with it!" remonstrated Doyno.

Louis's eyes opened wide and the tails of his moustache went up. "I do!" It was both an exclamation and a question.

"Certainly you do!"

"Why-y-y do-o-o I?"

"Because," laughed Doyno, "getting a man to put his hand on the horn is one of the surest ways of getting him interested in it. If he sees the horn standing where he can't reach it, of course will draw his attention, but if he is able to get his hands on it and make it squawk he is going to have a greater desire for it



Ah-h-h! Good morning, gentlemen!" beamed Louis, when the pair approached his door. "You are veri welcome, indeed!" effervesced the Frenchman. "Come in! Come in!"

than if he couldn't reach out and touch it."

"Maybe that iss so," replied Louis thoughtfully.

"Sure it's so!" continued Doyno. "Come down to my store and I'll show you what I say. I've got those things out where people can get at them."

"But the noise! The noise!" parried Louis.

"Agh!" grunted Doyno. "This is an accessory store, not a graveyard! And those other fixtures. Get 'em out here where people can get at them. Those wrench display boards, those valve tool fixtures, those other things along there. Set them out where folks can touch the stuff. Nobody'll steal them."

"Maybe you are right," replied the garageman.

Let Customer Make a Noise

"Oh, I know I'm right. I'll leave it to Reilly."

"Ben is nearly always right, Louis!" laughed Reilly. "And I know he's right this time. There's nothing like getting the goods into the hands of the prospective customer."

"That's what those things are for, Louis," Doyno continued. "The men who made them made them for that purpose. Take that spot light over there. If you hook that up so it will light and set the fixture out here where people can get at it and flash the thing around it tells them more through their own sight and fingers than you could ever tell them by talking about the lamp."

"That board of wrenches," Doyno pointed at a long board full of flat wrenches. "Here's a good place for it on the wall outside the counter. Hang it here so a man can look them over and pick them up and look at them if he wants to. I'm the darnedest man myself for taking hold of things in stores and then buying them. It helps wonderfully."

"Help Them Inspect the Thing"

"And those spark plug pumps. Lay one out on top of the show case so your customers can't help but pick it up and look at it. First thing you know they'll ask questions about the things they handle, or if they don't it certainly is a fine chance for you to open conversation with them. Help them inspect the thing. Tell how it works and what a nice thing it is to have. It will boost your sales; see if it doesn't!"

"That, Meestaire Doyno, is why I wished you to come to my garage. I know you know all about what is best to do. I am pleased that you should criticize me and my store. What you have said I would never have believed had another man told me—except Meestaire Reilly—and I hope because of what you tell me I may be able to buy still more goods from you."

"I hope so, too, Louis." Ben was build-

ing up quite a good jobbing trade with the garagemen in and about Callawassa.

"I had always thought that the desire of the customer could best be aroused by keeping the stuff just out of his reach," explained the garageman. "You know, you always want what you can't get; you always reach for what is just out of your reach. Therefore, I figured, if the horn is just out of the man's reach he will want it if I put it where he can see it but can't get it."

"Wrong, Louis, wrong!" asserted Doyno. "Let me ask you—When you go to Pierre's for lunch what do you drink? A wine you see but can't taste or a wine you have tasted and know is good?"

"Oh-h-h!" and Louis's face beamed. "The good wine, always!"

"The same with the man who has no horn. He may come in to buy one because he had had one like it, but if he has no horn and is not thinking of buying a horn he is influenced by what the horn can do and not by its looks. If he can give the button a push, see how easily it works and how cracky a sound it makes he has found in a single instant what he needs to know. He is interested in what the horn can do and when he gives the button a push he finds out."

"If he has not such a horn he realizes at once that this is the horn he needs. The next thing he wants to know is, How much? and How is it put on? These things he asks you. The candy seller on the picnic steamboat does not wave a box of sweets in front of you and ask you to buy. He opens a box

and distributes samples, does he not, Louis?"

"He does—and after this I am the candy boy!"

Mechanics' Tools Are Furnished

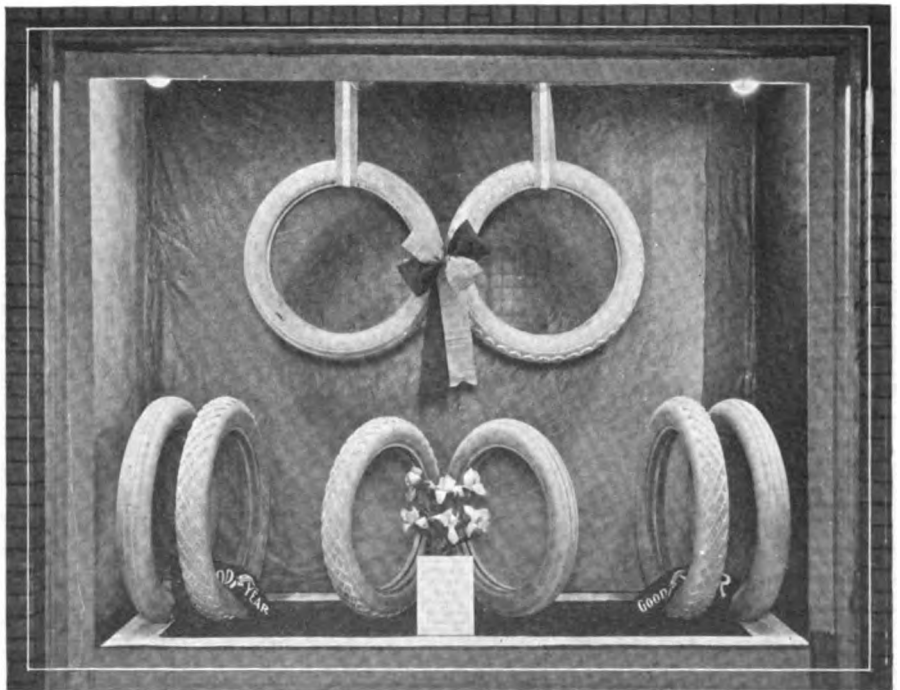
There are no "monkey-wrench" mechanics in the shop of the Elton Auto & Repair Co., Youngstown, O. Each man is furnished with a chest of tools containing everything required for overhauling Cadillac cars. Any tools that are lost by the mechanic must be replaced by him.

Furnishing the mechanic with his tools, and especially such a complete set, is unusual, but it is found to be well worth the expenditure, which amounts to about \$40 per set.

It allows each mechanic to work with maximum speed and efficiency, for he uses the right tool in the right place and does not try to make pliers take the place of a small monkey-wrench which he should have but has not, or an S wrench on end where he should have a socket wrench. The time saved in this way means real money to the concern in its free service work and to the customer in the regular repair work for which a charge is made.

This policy prevents the marring of nuts and bolts by using ill-adapted and poorly-fitting wrenches, and this is appreciated by the owner who likes every detail of his car perfect. Preserving the contour of the nuts and bolts results in a saving in time in subsequent repairs also, for a hexagonal nut with badly burred edges often is difficult to remove.

Simplicity in a Goodyear Display Window



This is a suggestion for dressing a window with a tire display. The properties required are a few pieces of ribbon, a potted plant and two flags. The suggestion is made by the window dresser employed by the Goodyear company

Ford Sends a Letter to Dealers About DIRT

This letter to dealers in the Cincinnati branch's territory tells a big story. Ford says no dealer at all is far better than a dirty dealer. Accessories must be neat and orderly, and should

be kept apart and not in the car salesroom. The Ford company is right. And there are many other manufacturers whose dealers are in just as great need of a cleaning up.

Ford Motor Company

HENRY FORD, President
JAMES COUZENS, Vice Pres. & Treas.
F. L. KLINGENSMITH, Secretary.

Automobile Manufacturers



Cincinnati

Cincinnati Branch
Limited and Sub-Limited Agents

Jul 22 1915

Gentlemen:

ALL STATEMENTS OR AGREEMENTS CONTAINED IN THIS LETTER ARE CONTINGENT ON STRIKES, ACCIDENTS, FIRES, OR ANY OTHER CAUSES BEYOND OUR CONTROL AND ALL CONTRACTS ARE SUBJECT TO APPROVAL BY THE SIGNATURE OF A DULY AUTHORIZED EXECUTIVE OFFICER OF THIS COMPANY. CLERICAL ERRORS SUBJECT TO CORRECTION.

DIRT

The time has passed when any self-respecting merchant handling any recognized line of merchandise can afford to have his place of business open to any criticism whatever on the grounds of uncleanness.

Certainly the time has passed when the Ford Motor Company will longer permit this condition to exist among its dealers. This applies to Salesroom, Garage, Shop and TOILETS.

The order has gone forth directly from headquarters that the contract of any dealer, regardless of his size, is to be summarily cancelled if he is found conducting his business in an uncleanly place or manner, and on August 1st, special men, starting from Detroit, are going to travel over the territory of every Branch to report on this one condition alone.

THIS IS FAIR WARNING

If you care to continue handling our product, your place of business (regardless of any local disadvantages you may have)

MUST BE CLEAN

as we are prepared to let a given territory go without representation rather than to have our line handled in a dirty manner.

We also object to having the Salesroom littered up with accessories. If you handle accessories they must be kept in an orderly manner and in such a way and place as not to force themselves upon the attention of a purchaser and cause him to believe that after buying a car he must still spend an indefinite amount of money for what, from our point of view, is "JUNK".

Look your place over carefully and at once. Try to see it as it appears to us; then "CLEAN UP AND KEEP CLEAN", for there will be no appeal from the decision of the Home Office inspectors on this point.

FORD MOTOR COMPANY

F. E. McClure
Manager

PLEASE ADDRESS ALL COMMUNICATIONS
TO THE COMPANY AND NOT TO INDIVIDUALS
REFERRING TO THE FOLLOWING NUMBER

FEM:TCG

WIDE-AWAKE MERCHANDISING

WASHES BY HOUR; TIPS ARE BARRED

Canton Man Won't Do Business Without a Profit

Making a fair profit or refusing to do business is the policy A. H. Wilson, Canton, O., has pursued in building up one of the finest garage businesses in the state in less than 10 years. Consistent with this policy he introduced two innovations, one was the charging of 60 cents per hour for washing and polishing and the other was the abolition of tipping.

The first reform was due to the fact that when a flat rate is charged it may be too high for one car and for another too low. For example, the man with the small car is overcharged if he is called upon to pay as much as the man with the big car. Likewise the man that is very careful with his car, the one that drives slowly through puddles and has the car cleaned often should not pay as much as the man that is careless and allows his car to become coated with mud and oil before bringing it in. In the latter case it is quite possible that the flat rate is not sufficient, and the garage loses.

It was to overcome these defects that the hourly rate was put into effect, and it is said that the change has been a big success from every standpoint.

The tipping evil was stamped out because employees were spending a great deal of time working for tips; the company, however, received no benefit, and was just out of pocket that much money.

For example, a mechanic would be called upon to adjust a carbureter, the company would pay him for his time, and yet he would not make a charge for it providing it did not take too long a time because he hoped to get a tip; in other words, he was working against the company's best interests.

Similarly a customer would drive in for some small article, and while he was waiting he would summon the washer and have his car hosed off; for this service he would receive a tip, but the company would get nothing.

There was another good reason for

eliminating the tipping evil, although it is outside the theme of making a fair profit on everything. Many very good customers, some of whom bought new cars every year, were slighted for those whose trade was small simply because the latter often gave tips.

GOT OUT! AND GOT SALE

"Get out of my office," said a prospect, who evidently did not have a proper amount of respect for the salesman.

The salesman "got," but he was far from beaten, for he immediately called up the prospect's wife, made an appointment, and long before the husband reached home that evening she was an enthusiastic driver and anxious to purchase that make of car, and in spite of the husband's protests the contract was signed.

WHAT DO YOU SAY ON THE SUBJECT?

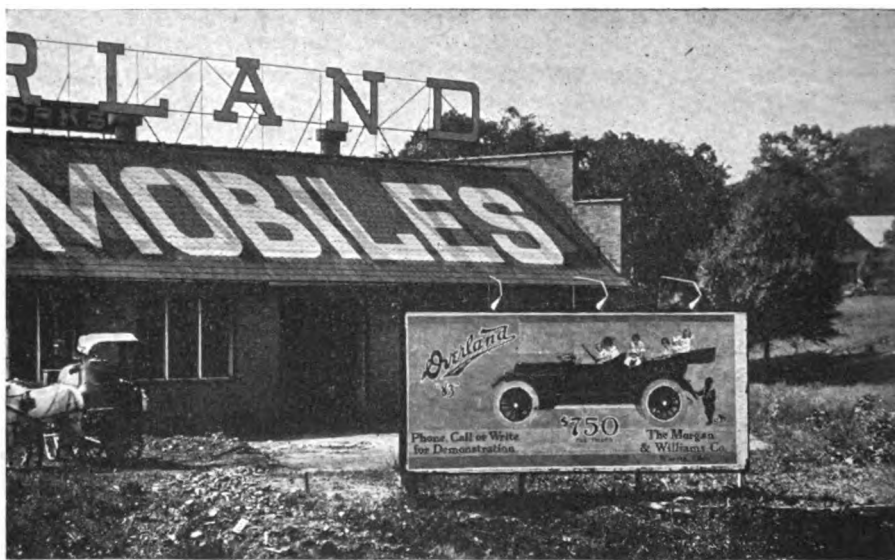
If This Man Is Right His Organization Is Wrong

"No," said a successful dealer, who ought to know better, "we don't subscribe for any trade papers. They are demoralizing in their effect on the sales force. The salesmen sit around and read them when they ought to be out looking for business."

"Wouldn't the gain of one good idea that resulted in a car sale be worth a half hour or an hour's reading?" was asked.

There was no answer.

Tells Story Every Day to 11,000 People of Warren



At a cost of less than \$20, Morgan & Williams, Warren, O., have a permanent billboard that nearly everyone of the 11,000 inhabitants sees every day. The sign is situated at the side of the garage and faces the public square. The sign is standard size, 9 x 24 feet, so that the lithographs made by automobile and accessory manufacturers whose goods this firm handles can be used. Usually a car is advertised, but sometimes it is a tire or some other motor necessity.

At night it is illuminated by three 100-

watt lamps. The lamps are carried in reflectors made by the Chicago Flasher Co., Chicago, and they cost \$3 to \$4 apiece.

The lights are connected to the regular display circuit which is turned on by the local electric light company at dusk and switched off again at 12 midnight. The cost of current per month is about \$3.50.

The sign is of simple construction and is composed of galvanized iron sheets fastened to a wooden framework.

Men's Goods Store Service

When the Car Owner Asks Excessive Service Tell Him This Story

By Robert Foster

I went down to the Men's Store yesterday to get a suit of clothes, a hat and a pair of shoes. Before I got through I bought several other things, which was salesmanship on the part of the store, and I also got what I call good service.

I asked the salesman to show me suits, and he did so. He was very courteous and very attentive, but not servile. He brought out all kinds of suits and did his best to help me make a selection that would satisfy me after I had bought. After the sale he took my name and address and said he would send the suit to my residence, which cost me nothing. This is a part of the legitimate overhead expense.

Paid for Everything

Then I happened to see—or the salesman helped me see—some neckties and I bought two. They cost me 50 cents each—and I paid for them. I had paid \$30 for the suit, but it never occurred to me to ask the salesman to throw in the neckties. And I don't suppose he would have done so had I asked him. He also landed me for a pair of cuff buttons. These cost me a quarter. I got them for summer wear because the first time I roll my sleeves up I shall lose them. But at as low as a quarter I never thought of asking him to throw in the buttons.

Shoes? I got a \$5 pair of shoes—Oxfords. And I paid a quarter for a pair of laces. I never thought of asking the clerk to give me the laces. And I paid \$2 for a hat, and 10 cents for a string to hold it on in the wind.

What Do I Get?

Now—what do I get thereafter? Do I expect the store to keep that suit pressed? Do I expect it to clean it when it's dirty? Do I expect the store to fix it if I tear it? I most certainly do not. If there is any defect the store will make good, and I probably will tip the tailor at that. Above all, I expect courteous and prompt attention and square dealing.

If the hat gets dirty—which it will in about three weeks—do I expect the store to clean it? Do I expect to have the sweat-band renewed when it is soiled? If somebody steps on the hat will the store fix it or give me a new one? I should say not! I don't expect it and would never think of asking for it. But I do expect the hat to wear well and I do

expect courteous and prompt attention.

When the shoes need shining will the store shine them? There is a bootblack in the store and this store says he will shine them for nothing, but I never patronize him because I would feel morally bound to give him a dime and I can get them shined outside for a nickel. When the shoes need tapping I go to the store and their shoemaker taps them—and I pay the full price for the work.

Of what does this store's service consist? Prompt attention, courtesy, good goods, delivery of my purchases and square dealing.

Why when I buy a car should I expect the dealer to throw in several accessories, or cut his price, or keep the car washed and polished, or do work on it without charge, or make all kinds of adjustments and supply parts, or do anything that costs him money? Why should I? I can't answer the question myself, but if I am the average car owner I do expect this excessive service.

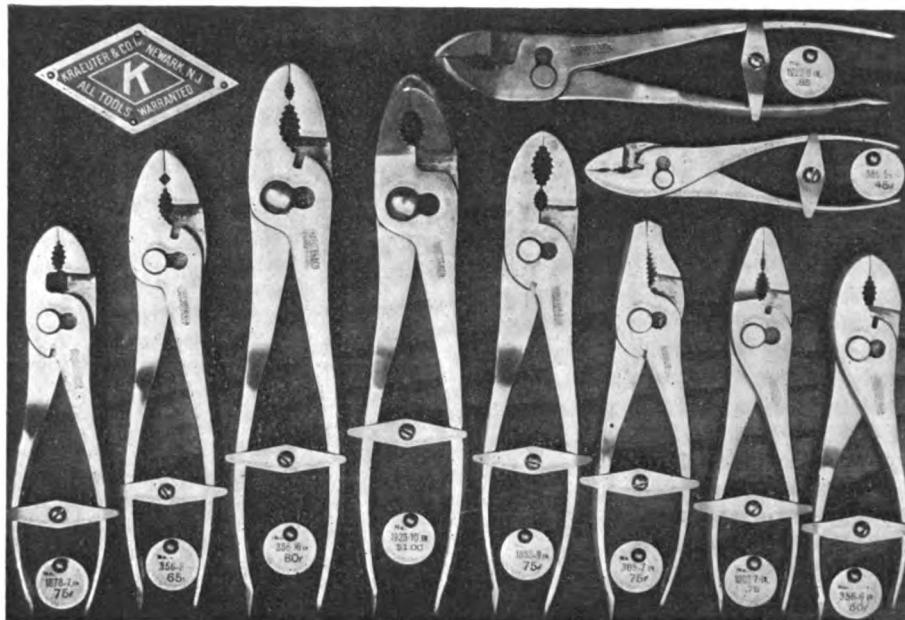
FREE USED CAR SERVICE

A marked innovation in the selling of used cars has been made by Earle C. Anthony, Inc., Los Angeles. In the future all used cars sold by the firm will carry coupon books good for a certain number of hours of service labor. The books are identical with those issued by Anthony with new cars. The coupons are honored not only at the Anthony shops but at every one of the 177 Anthony service stations in California.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith and this will be followed by others which have been especially designed for the purpose of assisting the dealer in bringing his merchandise to the attention of possible purchasers. Manufacturers who supply these devices are urged to forward photographs or sketches of them.

This No. 6 board of Kreuter & Co., Inc., 571-85 18th avenue, Newark, N. J., is considered by the company the best for the garage and supply store because it contains a large number of tools that are especially serviceable about the car. This gives the customer at a glance an idea of the assortment, sizes and uses



KEEPS MAN BUSY INSPECTING CARS

He Retains Owners' Good-will —\$3 Charge Later

The Southern Motors Co., Louisville, Ky., Packard, Hudson, Dodge and Detroit electric dealer, employs an inspector who makes periodic inspection of all machines sold by the concern. During the first year the car is in the hands of its new owner, this inspection is made free of cost. Repairs which in the wisdom of the company appear to be owing to the owner also are made without charge. A nominal sum of \$3 is charged for inspection after the first year and suggestions as to repairs are made irrespective of whether the work comes to the Southern motor shops. The inspector also examines cars before they are sold and estimates costs on those brought in for repair. He is in no wise responsible to the superintendent of repairs.

SAVE ON THE SITE

In selecting a garage site it is well to remember that with no adjoining buildings the insurance on the garage will be 8 to 25 per cent less.

For example, an average rate for an unattached brick garage is 60 cents, and 5 cents additional is charged for each exposure.

REPAIRSHOP SHORT-CUTS

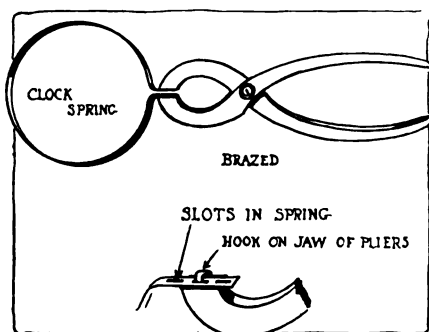
From the **MOTOR WORLD** *Road Man*

Two Simple Piston Ring Tools (No. 139)

Two tools for compressing piston rings are shown herewith. Each is made from a pair of pliers and an old clock spring.

The upper tool was produced by C. E. Tuller, Titus Garage, Marion, O., and the lower by Clyde Ward, with Frank P. Beck, of the same city.

The former tool has the spring brazed to the pliers and is mainly of use in



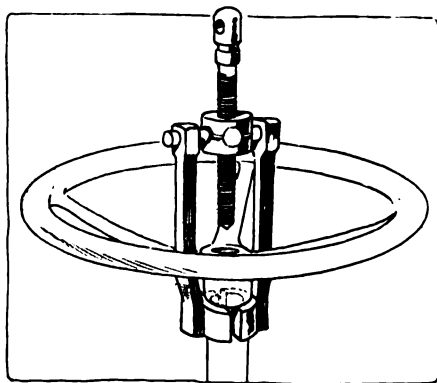
(No. 139)

Here are two ways of making a tool for compressing piston rings

compressing the rings of Fords where the pistons are slipped in through the head. The latter is brazed on one side and the other end of the steel band is held by a hook. There are several slots cut on the band so that it can be adjusted.

Gauge to Line Front Wheels (No. 140)

A gauge for determining the setting of front wheels can be made from an iron rod and a piece of pipe. The former slides within the latter and can be locked



(No. 141)

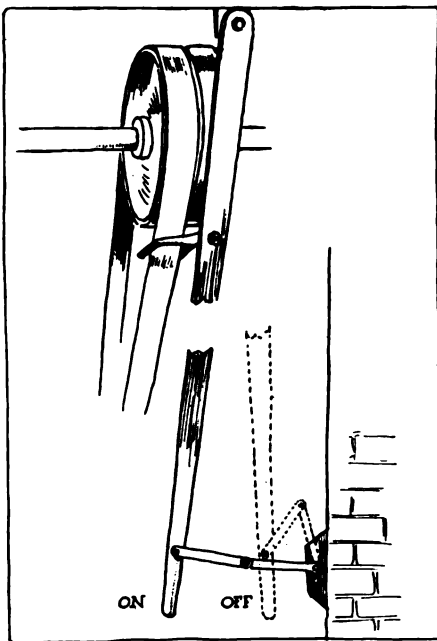
A steering wheel puller permits a wheel to be removed without injury

in any position by means of a set screw. The rod should be about 3 feet long and $\frac{1}{4}$ inch in diameter and the pipe about 2 feet long and just large enough

to slip over the rod.—C. L. Patton, foreman, Wise-Green M. C. Co., Canton, O.

Puller for Steering Wheels (No. 141)

A steering wheel puller has an advantage in that it makes possible the easy removal of the wheel without marring it. The construction is clearly



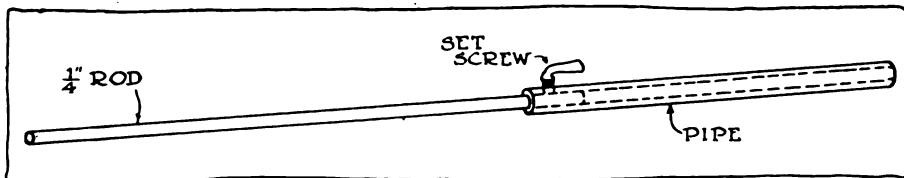
(No. 142)

Belts which continually run off their pulleys are held by this device

shown. The side members of the puller are quickly detachable so that the device may be slipped over the large wheel hub.—Harmon Wirebaugh, A. H. Wilson Motor Car Co., Canton, O.

Securing the Belt Shifter (No. 142)

Usually the tools in the shop are started and stopped by shifting a belt from an idler to a driving pulley by means of a long handle. Sometimes this has a tendency to slip out; one way of locking it in place is shown herewith.—T. L. Gracey, foreman, Argyle Garage, Brooklyn, N. Y.

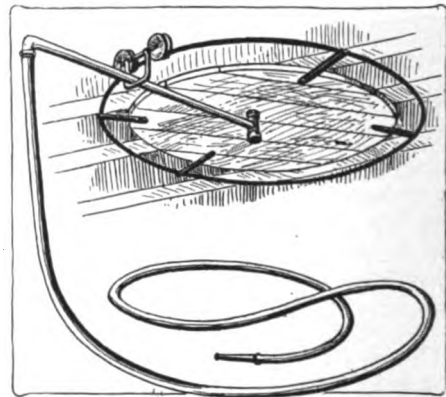


(No. 140)

To test the alignment of front wheels a gauge can be made of a rod sliding within a tube and held by a set screw as shown

Vehicle Washer of Door Track (No. 143)

A vehicle washer can easily be made out of a few pieces of pipe and a door track bent into a circle. The door track is bolted to a wooden framework which is built up from short lengths of boards. One of the carriers, which would be used



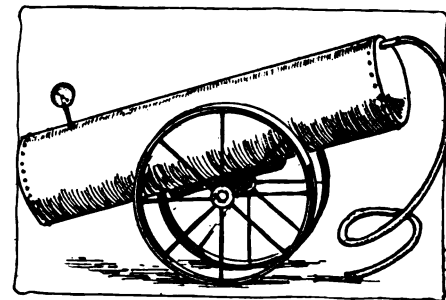
(No. 143)

Door track and a few odds and ends will make a good vehicle washer

for holding the door, is utilized for carrying the cross pipe to which the hose is attached. A simple packing gland allows the cross pipe to rotate without any water leaking out.—Martin Amdel, Whitehall Garage, Brooklyn, N. Y.

Water Boiler for Air Tank (No. 144)

A very cheap portable compressed air tank can be made out of an ordinary



(No. 144)

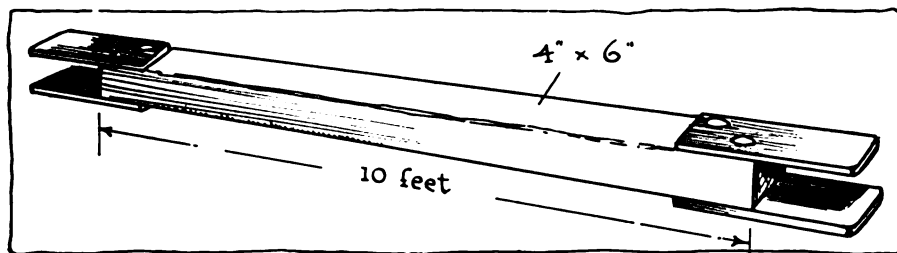
An old kitchen water boiler can be made into a good compressed air tank

water boiler mounted on two metal wheels about 2 feet in diameter. Suitable wheels can be obtained from a junk dealer and are of the type used on certain kinds of farm machinery. The tank is provided with a pressure gauge. Care must be taken not to increase the pres-

Stand for Ford Motors (No. 147)

A handy stand for the Ford cylinder block is shown herewith. The block is rested on the stand with the bottom side up so that work on the main bearings

lower fork is placed around the push rod guide, and with the handles extended the other fork is made to rest on the valve spring seat. Pressure on the handles raises the spring and allows the spring key to be withdrawn for the valve stem. The device is particularly useful for the reason that it leaves one



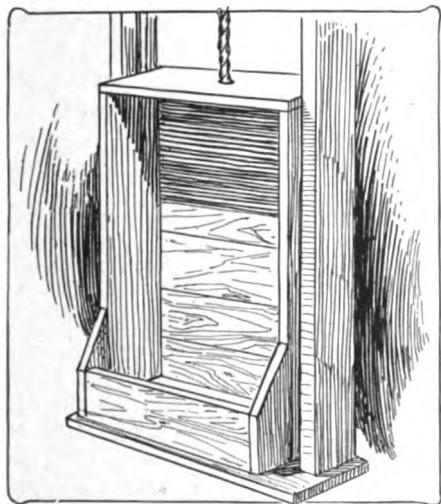
(No. 145)

A pushing bar for moving disabled cars is made of a wooden beam with steel ends to go over the axles bolted in place

sure to the bursting point.—Hoyles & Moyer, Marion, O.

Bar for Pushing Cars (No. 145)

A pushing bar is often more convenient to use in bringing home a wrecked car than a tow rope. A bar for the purpose can be made of a bar of wood about



(No. 146)

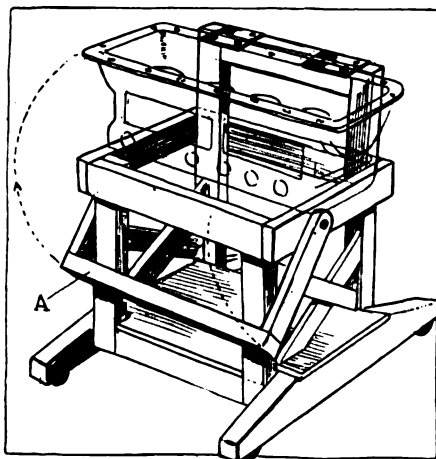
A dumbwaiter is easily made and will save time in transporting small parts

10 feet long and 4 x 6 inches in thickness. At each end there is attached metal strips which are held in place with ordinary carriage bolts.—Parkers Garage, Middletown, Conn.

Dumbwaiter Will Save Time (No. 146)

Where the parts stock room and shop are located on different floors, or where the accessory store and stock room are on different floors, considerable time can be saved by running a dumbwaiter between the two. Such a dumbwaiter is merely a wooden box about 12 x 18 x 30 inches, sliding on suitable wooden guides, and nailed to these are two tracks about 1/2 x 1 inch. The dumbwaiter is counterweighted with a window weight of suitable size. A cord attached to the bottom allows it to be pulled down when at the floor above.—O. R. Muller, Alliance Motor Car Co., Alliance, O.

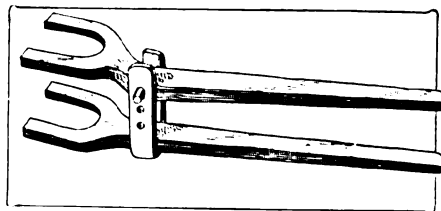
can be done. Then if there is any work to be done on the other side the crankcase flange is bolted fast to the hinges on the back of the stand and the block is rotated through a quarter of a circle, being supported in this position. In this



(No. 147)

With the stand, a Ford cylinder block can be turned easily in any position

position valves may be ground and valves and camshaft put in place. The crankshaft and pistons may be assembled when the block is in the first position.—H. W. York, foreman, Van Motor Co., Newburgh, N. Y.

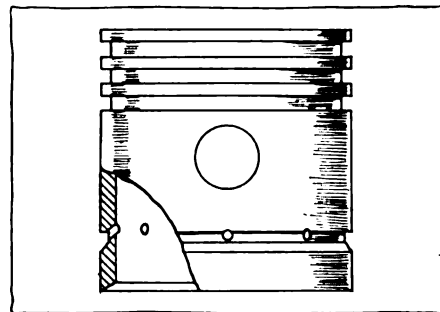


(No. 148)

This valve spring remover is adjustable and leaves one hand free

Homemade Valve Remover (No. 148)

A particularly good valve spring remover consists of two pieces of iron, each forked at one end and pivoted together. The position of the pivot is adjustable so that various sizes of valves may be removed with the one tool. The



(No. 149)

A bevelled groove in a piston drilled as shown will overcome excessive lubrication

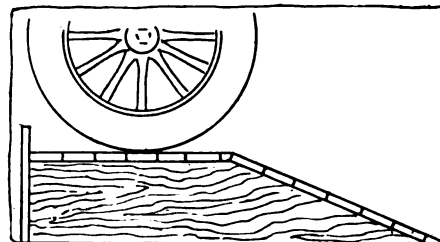
of the workman's hands free to remove the valve spring pin.—V. L. Warren, Ashtabula Garage, Ashtabula, O.

Curing Excessive Oiling.. (No. 149)

To cure excessive lubrication to which some old cars are subject, the pistons should have a narrow groove turned in the skirt with the lower edge of the groove beveled. With a No. 30 drill, about six holes are drilled at equal distances around the piston and at an angle through the groove. The sharp edge at the top of the groove acts as a scraper and the surplus oil passes through the drilled holes, returning to the crankcase. No ring is placed in the slot.—Parkers Garage, Middletown, Conn.

Box Substitute for a Pit (No. 150)

While not new, the substitute for a pit illustrated is worth describing because of its merit. Two heavy wooden boxes, one for each wheel, with a slope of about 30 degrees, and a flat space on top are used. The boxes are constructed of 1 1/2- or 2-inch planks; the height is about 10 inches and the length about 4 feet. Such boxes will support even a heavy car.—V. L. Warren, Ashtabula Garage, Ashtabula, O.



(No. 150)

Two heavy boxes, one for each wheel, can be used as a substitute for a pit

A \$500 Order

Page 5

Dealer's Legal Status

A Repairshop Is Not Necessarily a Garage—Person Hiring a Car Is Responsible for It—"Early as Possible"

Defined—Can Transfer Car Lien

By George F. Kaiser

In forwarding questions to be answered in this department, subscribers must state all the facts and forward copies of any contracts, agreements, etc., in order that inquiries can be completely and intelligently answered.

Definition of a Garage Is Governed by Ordinance

If Law Says It Is "Any Place to Store Baby Carriages," It's Right

Editor Motor World:

Will you please tell me whether or not a repairshop is generally classed as a garage under state and city regulations?

Syracuse, N. Y.

E. C. S.

Whether or not a repairshop would be classed as a garage would depend entirely on the wording of the state or city ordinance which you had in mind.

If the legislature, city council or board of aldermen saw fit to pass a law which provided that a garage was "any place used for the storage of baby carriages," any place so used would come within the particular provisions provided in the act, no matter how absurd it might seem.

The garage properly defined is a building, a shed or stable used for the storage of automobiles and other horseless vehicles. Under this definition a place which was purely and simply a repairshop would not be held to be a garage, because of the mere fact that a car was being stored incidentally to being repaired.

Right of the Garageman Is the Same as Liveryman's

If He Rents a Car, the Person Renting It Is Responsible for It

Editor Motor World:

What redress has a garageman against a friend who hires one of his cars and smashes it while on a joy ride?

Atlantic City, N. J.

G. F.

The right of a garageman who rents a car to a person who drives it himself is exactly the right that a livery man had when he rented a team of horses and a carriage.

When the horses were injured through the carelessness and negligence of the person who hired them, or were so abused that they were injured, the livery man had a good cause of action for damages against his customer.

This is the case with the garageman. If the party hiring the car does not use reasonable care to avoid accidents, but drives negligently and carelessly, or while in an intoxicated condition, the garageman may sue him and recover.

"As Early as Possible" Is Made Plain by the Court

"On or About" Does Not Mean Exactly On a Certain Date

The Georgia Court of Appeals lately had occasion to define the words "as early as possible."

It was held that when a contract is made for the sale of a motor car, and the time of delivery is not fixed otherwise than by stipulation that the motor car will be delivered "as early as possible."

Verbal evidence is admissible to explain just what this term was understood to mean by the parties who signed the contract at the time they made it.

In another case where the time a motor car was to be delivered was not set forth clearly in the contract, the words "deliver on or about —, touring car immediately, limousine body, October 15, 1913," the words "deliver on or about" being printed and the rest written in, the court held that the limousine body need not be delivered exactly on October 15.

The suit was started to recover the sum of \$350 which had been deposited with the motor car company on the purchase of the limousine body. The purchaser telephoned the company on the 16th and 18th of October and stated that as the body had been promised to him on the 15th and had not yet been delivered

to him he did not know whether he would take it. On the 24th of October the company wrote the purchaser, advising him that the body was ready for him. No other attempt to cancel the contract was made by the purchaser until the suit was started.

The court held that judgment should be rendered in favor of the company in the sum of \$500 on its counterclaim. (Schiff vs. Winton Motor Car Co., 153 N. Y. S. 963.)

May Sue for Commission On Sales in Territory

Dealer Is Allowed Commission on Sale Made by Another in His Territory

The right of a dealer to recover back his deposit, together with his commissions on a car sold by another party in his exclusive territory, is upheld in a late Texas case.

A dealer had an agreement with the agent, giving him certain exclusive territory, and allowing him 18 per cent discount on the list price, which was \$900. The dealer deposited \$250 and bought one car for \$803 and received back \$25 of his deposit. He found out thereafter that another party had sold a car in his territory and he demanded \$162 as his commission.

When the agent refused to pay him this amount and cancelled most of his best territory, he brought suit for the \$162 and the \$225 remaining on deposit.

The court held that as the contract assigned a specific territory to him for a specific time, and as the territory was exclusively his for that time, he alone had the right to make sales therein. If he had made the sale he complained of he would have been entitled to \$162 for his services, so when the agents allowed another to make a sale which properly should have been made by him, the dealer became entitled to his commissions according to his agreement. (Overstreet vs. Hannah, 177 S. W. 217.)

Lien on Motor Car Can Be Transferred to Another

A recent decision to the effect that a man who repairs an automobile and has a lien on it for the amount of the repair bill, etc., may transfer his lien and possession of the motor car, has just been handed down in New York.

In this case the owner sued the repairman in replevin to get his car back, but the court held that as the latter had the right to transfer both the lien and car, the parties to whom they had been transferred must also be sued if a recovery was to be had. (Goyena vs. Berdoulay, 154 N. Y. S. 103.)

Reo 1,500-pound Truck, \$1,075

For Light Delivery Work—Full Electric Equipment

The Reo Motor Truck Co., Lansing, Mich., has brought out a $\frac{3}{4}$ -ton delivery car having a normal capacity of 1,500 pounds and a maximum capacity including the weight of the body of 1,800 pounds. It is designed to run at a speed of 22 m. p. h. and is mounted on a 120-inch wheelbase with standard 56-inch tread.

The price of the complete truck with the standard express body and canopy top is \$1,075 f. o. b. Lansing and for the chassis only, including the equipment but minus the express body, driver's seat, canopy top, windshield, is \$1,000 f. o. b. Lansing.

The equipment is complete, including a two-piece ventilating rain-vision windshield, Remy electric starting and lighting, 100-ampere hour storage battery, mechanical horn, and a complete set of the customary tools.

The motor has a nominal rating of 35 horsepower. It is a pair-cast $4\frac{1}{8} \times 4\frac{1}{2}$ four having the heads integral. The valves are the conventional 45-degree poppet, having a clear diameter of $1\frac{3}{4}$ inch. The inlet valves are mounted in the head and the exhaust on the side. The pistons are of gray cast iron provided with two 3-piece rings delivering the drive to I-section drop-forged connecting rods $9\frac{1}{2}$ inches long with $1\frac{1}{4} \times 2\frac{1}{4}$ -inch bearings lined with babbitt. The crankshaft is a drop forging from manganese steel, heat treated and ground to size. The main bearings are lined with nickel babbitt, each $1\frac{1}{2}$ inch in diameter with a $2\frac{3}{4}$ length in front and center and 4 inches long in rear. These bearings are adjustable from the exterior of the crankcase. The camshaft carries the cams forged integrally running in die-cast bearings. The timing gears are helical.

Oiling is taken care of by combination force-feed and splash system. The oil reservoir is located in the bottom of the crankcase and the feed is taken by a

plunger pump under pressure to the main bearings and to the timing gears. The cylinders are lubricated by splash, the splash trough being arranged to provide a constant level.

Carburation is by a Johnson float-feed automatic waterjacketed carburetor fitted with an air intake connected with a stove on the exhaust manifold and provided with dash air control. The carburetor control is by the customary method of throttle on steering post and a pedal accelerator. Ignition is provided by a Remy generator, which is also used to furnish current to the storage battery for electric lighting and starting. The entire electric system is operated at 6 volts and is a two-unit device with the starting motor mounted over the front end of the gearset. The car is provided with head lamps fitted with a dimming device. There is also an instrument and tail lamp.

From the motor the drive is taken through a thirteen-plate dry-disk clutch through a three-speed sliding selective gearset provided with case-hardened gears having $\frac{7}{8}$ -inch face width. The gearset is carried throughout on roller bearings and is arranged to provide center control, being mounted amidship on a sub-frame. The axle ratio is 4 to 1 on high speed, 7.2 to 1 on second and 14.8 to 1 on low.

The axle is a floating design so arranged that one or both driveshafts may be completely withdrawn without jacking the car, allowing the easy removal of the differential and driving gears. The axle shafts are splined, being forged from chrome-nickel steel and heat-treated. The differential and rear wheels are carried on Timken roller bearings and the pressed steel housing, which takes the weight, is electrically welded into one piece.

Left side drive is employed in connection with the center control, the steering gear being an adjustable bevel pinion

and sector controlling the front wheels by forged levers. Steering wheel diameter is 17 inches and the car can turn in a radius of $22\frac{1}{2}$ feet.

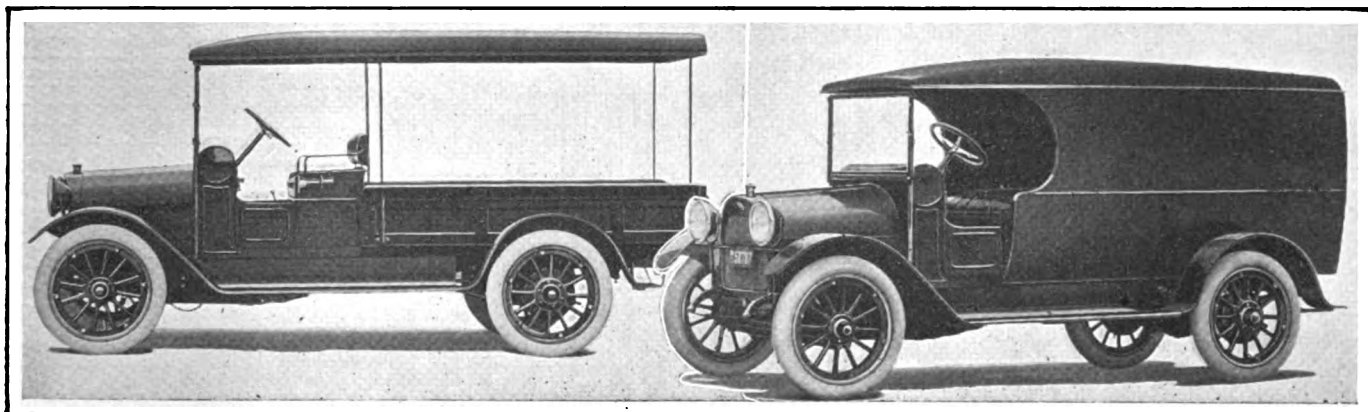
The standard body is an express type, flareboard with top and side curtains. The width inside is 44 inches and length inside 96 inches. The height of the panel is 12 inches, width of flare 5 inches and the height of the platform when light 33 inches. The height of the platform loaded is $30\frac{1}{2}$ inches. The overall height of the truck is 92 inches, the overall width 66 inches, dash to front of seat 26 inches, depth of seat 18 inches, width of seat 38 inches.

Gulf Refining Distributes Maps

The Gulf Refining Co., Pittsburgh, is supplying to garagemen and dealers a series of road maps which should be of considerable value. There are about a dozen different maps, covering practically every section of the United States, and inasmuch as they have been prepared by the Automobile Blue Book Publishing Co., they are authentic. The Gulf company is supplying the maps to any garage or dealer who will request them, and further, will imprint the dealer's name and address without cost. There scarcely is need to point out the value of maps of the kind to a garageman, in particular, whose transient patrons continually ask him for authentic road directions. The sections covered by the maps include Pennsylvania, Middle West, Texas, Southern States, Allegheny County, New York, New Jersey and New England. One map is devoted to transcontinental tours and another to "The Pike" between Philadelphia and Pittsburgh.

Los Angeles Show in October

LOS ANGELES, Aug. 5—California's 1915 show is to be held in Los Angeles the latter part of October. The event is to be known as the Broadway Automobile and Flower Show and is to be staged under the auspices of the automobile dealers of Los Angeles. The committee appointed from the motor car dealers includes Ralph C. Hamlin, P. H. Greer and Earle C. Anthony.



The new $\frac{3}{4}$ -ton delivery wagon with open express body

The same chassis equipped with full panel delivery body

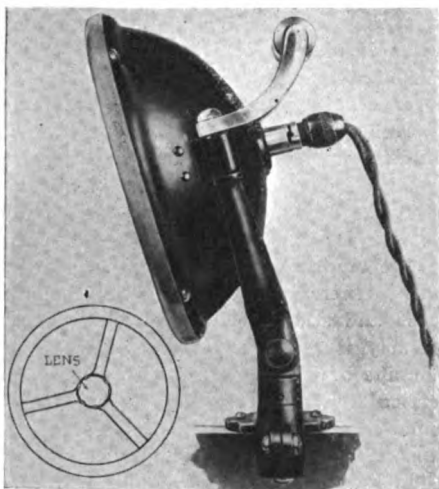


ACCESSORIES & SUPPLIES :

PITTSBURGH SEARCHLIGHT

**Pittsburgh Electric Specialties Co., Pitts-
burgh, Pa.**

This is an auxiliary lamp to be mounted on the door or windshield. It has a focusing lense and an 8-inch reflector. The bulb is a 6-volt, 1-ampere Mazda:



Pittsburgh Auto searchlight

either a storage battery or dry cells may be used as a current supply. The lamp has a universal movement, is solidly mounted and is controlled by a handle on the back.

KENNEDY STEEL VALISE

Kennedy Mfg. Co., 14 East Jackson boulevard, Chicago.

PRICE, 14 x 17 x 9-inch, \$3.85; 22 x 11 x 13-inch, \$4.85; three intermediate sizes.

The Kennedy Kit is made of sheet steel, looks like a traveling bag, is



Kennedy Kit—a steel valise

cheaper and no heavier. It is provided with a removable tray, all parts are riveted and it is strong enough so that it will not sag when heavy material is

carried. It has disappearing hinges and a Corbin lock. Finished in heavy enamel, leather brown or black, as desired.

PERFECTION CAR HEATER

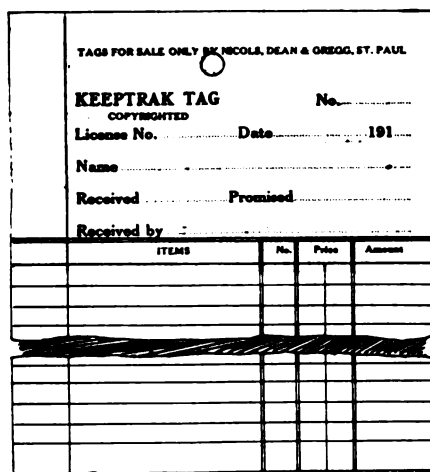
Perfection Spring Service Co., Cleveland.
PRICE, \$25.

About one-eighth of the exhaust gas from the motor is deflected from the exhaust pipe, passing through a flexible steel tube into the heater, which is built up with copper radiating tubes enclosed in a rustless sheet metal casing. A top plate, perforated, is mounted flush with the car floor and measures $9\frac{1}{4} \times 13\frac{1}{2}$ inches. The amount of heat is controlled by a small lever projecting through the floor plate. Another form of the same heater is made to occupy a smaller floor space— $3\frac{1}{4} \times 15\frac{1}{2}$ inches—and the control lever is a separate unit which can be placed anywhere.

KEEPTRAK GARAGE TAGS

Nicols, Dean & Gregg, St. Paul.
PRICE, complete. \$4.

The Keeptrak File is the name of a garage bookkeeping system for the man who has no bookkeeper. On the face of the card, which is shown herewith, the customer's order is entered when the car enters the garage. Each item is checked off as completed. Under labor and remarks on the reverse side are entered in itemized form labor and all extras deemed necessary. When the job is done the card is priced and entered in the ledger. The cards are filed alphabetically in a thumb-indexed file, which does away with the day book generally used.



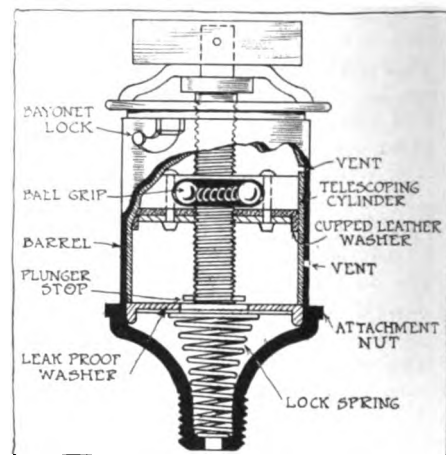
The Kceptrak Tag—a simple garage bookkeeping system

C-B IAR-PROOF CUP

Wm. J. Bailey, Newark, N. J.

**PRICES, polished brass, 30 to 45 cents;
nickel plated, 35 to 50 cents.**

This cup is so made that while it can be easily operated with the finger and



C-B jar-proof grease cup

thumb it will not loosen from vibration. The cover goes on with a bayonet lock. The plunger has a cupped leather packing which grease cannot pass and is prevented from turning by a ball grip. Four sizes are made— $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch, these being all standard pipe threads.

A \$500 Order

Page 5

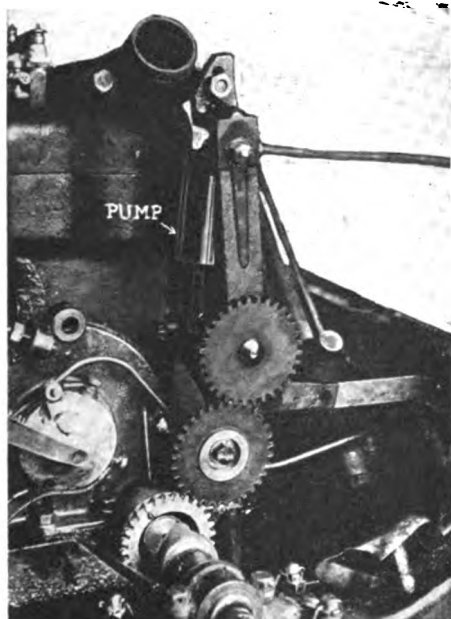
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JULECO PUMP FOR FORDS

Judd & Leland Mfg. Co., Clifton Springs, N. Y.

PRICE, \$4.50 complete. DEALERS, \$3.25.

This is a single-cylinder design mounted at the front of the motor and driven



Juleco F pump for Fords

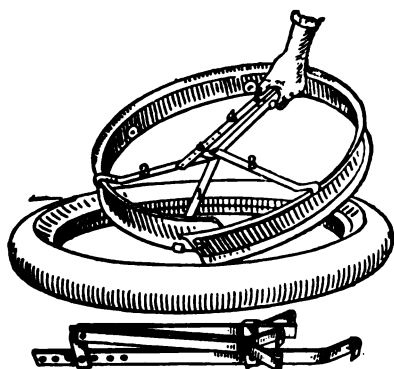
from the crankshaft through a train of gears, the one on the crankshaft being split. The pump can be attached with a wrench and screw driver. Included in the price is a hose, and a whistle gauge which can be set to any desired pressure. Similar pumps for Maxwell, Metz and other cars will be brought out shortly.

POSITIVE RIM REMOVER

Positive Supply Co., Davenport, Ia.

PRICE, \$2. DEALERS, \$1.40.

When the Positive remover is used to take off a rim the rim is drawn in uni-



Positive remover for split rims

formly and it is unnecessary to do any hammering or prying. The construction of the tool is made clear by the accompanying illustration. It can readily be placed in the tool box, as it folds com-

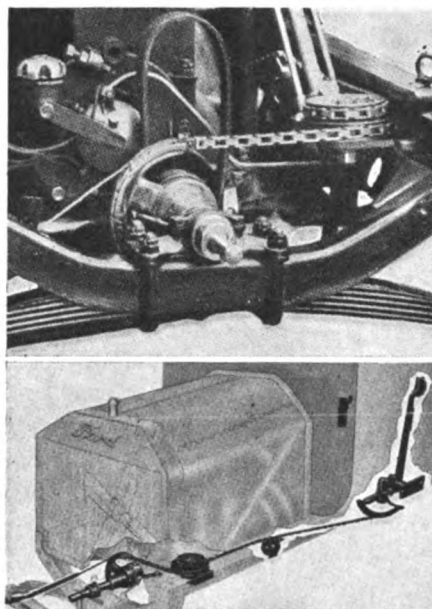
pactly when not in use. It will fit any rim. The weight of the device complete is 3 pounds.

GIANT STARTER FOR FORDS

Standard Starter & Specialty Co., Cleveland.

PRICE, \$25.

This is a pedal-operated starter; all the mechanism except the pedal is hidden under the hood. Pressure applied to the pedal is transmitted through a lever, pulleys and chains to a pulley on



Giant starter for Ford cars

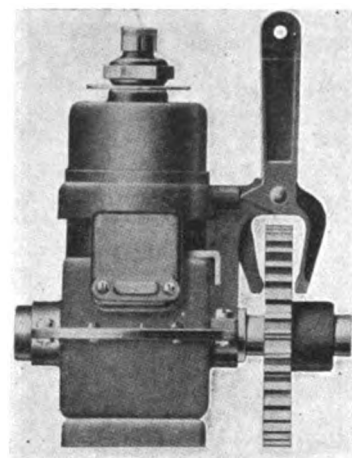
the front end of the crankshaft. Shocks and backfires cannot be transmitted to the operator. The chain used is of the motorcycle type. One stroke of the pedal gives the motor $\frac{1}{2}$ revolution. Installation requires no drilling or machine work; the makers state that the job can be done in about 2 hours. In ordering it is necessary to specify whether the starter is wanted for a Ford of 1914 or 1915.

ADVANCE TOLEDO AIR COMPRESSOR

Advance Machinery Co., Toledo

PRICE, with fittings, \$15.

A single steel stamping forms the cylinder and upper half of the crankcase of this power-driven pump; the bore of the cylinder is finished by reaming and burnishing. Another steel stamping forms the lower half of the crankcase, the piston is of cast iron with soft steel rings, the crankshaft is a steel forging



Advance Toledo air compressor

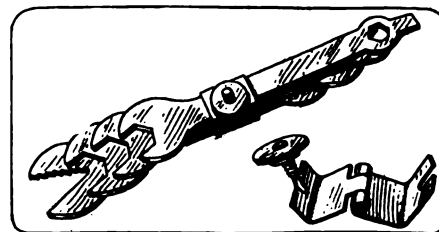
and the bearings are of nickel babbitt cast in the body of the pump. The shifting gear is set with the hub on the outside, the result being that the driving stresses are taken close to the bearings. A screen over the intake port excludes dirt. Air openings and hose connections are of ample dimensions.

BECCO STEEL WRENCH SET

Michigan Motor Specialties Co., 520 East Woodbridge street, Detroit

PRICE, No. 1 set, 50 cents; No. 2, 65 cents.

Wrenches are made in sets held together when not in use by a special clip. The wrenches are of flat steel. Set No. 1 consists of four wrenches, all double-ended and one having two openings in one end and one in the other and one having alligator jaws. The sizes are from $\frac{5}{16}$ to $\frac{11}{16}$ and there is also



Becco steel wrench set

a small opening for gas-tank valves. The steel used is $\frac{1}{8}$ inch thick. Set No. 2 has the same number of wrenches, but the sizes run from $\frac{5}{16}$ to $\frac{3}{4}$; the alligator is the same size. The steel used is $\frac{5}{32}$ inch thick. Set No. 1 is nickel plated and Set No. 2 is finished in black enamel.

J-M Shock Absorber Reduced

The J. M. Shock Absorber Co., Philadelphia, has reduced the prices of its J. M. shock absorbers for Ford cars. The price for a pair formerly was \$15; it now is \$8. For the full set of four the old price was \$25; this has been reduced to \$15.

A \$500 Order

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A \$500 Order

The SIXTEENTH installment of Motor
 World's Campaign for Greater Profits.

THOSE garagemen and dealers who have seen the big opportunity that is disclosed for them by Motor World's Campaign for Greater Profits and who have cleaned up their garages and begun to display accessories have surprised themselves.

Probably none of them was more surprised than the proprietors of the Pearl Street Electric Garage, Denver, who recently began to feature the fact that they sell accessories and supplies. They have sold them for some time, but neglected to let the public know about it.

The volume of sales has jumped from \$50 a month to an average of \$300 a month, and they expect to make it \$600 and \$700 a month in the summer months. Not only that, but, following the installation of a battery window, a single customer left \$500 with them. This is more than the average month's sales. The order bears out the importance of display. The man saw, stopped, asked questions and bought. If he had not seen he probably never would have stopped.

Wherefore — Have your place clean, make it an attraction, display the goods you have to sell.

Wayside Wrecks

THE number of retail dealers in every field is steadily increasing; competition also is increasing, and with the increase in dealers has come a great segregation. The general store no longer sells gro-

ceries and pianos, hardware and sweetstuffs. Each is separate and distinct—in short, a specialist.

To specialize in any business means, first, to know it thoroughly; secondly, originality in presenting goods, in handling credits and in store management. These are the methods of the specialist. They bring success.

The path of business is strewn with the wrecks of those who displayed no originality, who were unable to appropriate the good ideas of others, who did not thoroughly know their business, who handled credits poorly and who paid not sufficient attention to store management.

Are you on the safe side?

Who Will Speak Next?

THE dealer and garageman whose place of business has not received from him the attention it deserves, may find a stimulating thought in the opinion of the Ford Motor Co. as to DIRT. The Ford opinion will be found on one of the first pages of this number of Motor World. What Ford thinks every good business man thinks. The difference is that not all manufacturers have taken the firm step taken by Ford. If they all would do so it would revolutionize the industry. Their earnest word is all that is needed. Who will speak next?

An Editorial on Better Business

By E. T. Hanley of the Muncie
 Automobile Co., Muncie, Ind.

Editor Motor World:

The cartoon in your valuable publication of July 21st entitled "The Thrill That Comes Once in a Lifetime," afforded us considerable amusement.

The incident portrayed is very comical, but we know of an actual happening that is more ridiculous when it comes to a consideration of charges for services rendered.

A patron of our firm driving to a neighboring city had the misfortune to burn out a connecting rod bearing. Stopping at a country garage, he engaged the proprietor to take care of his machine.

To Blame for the Weather

As it was imperative that the owner of the machine reach his destination at a certain time, he hired from the garage a car and driver to take his wife, his daughter and himself 12 miles to catch a train.

The drive was made in a severe rain storm, and the charge for this service, which was invaluable to the renter of the machine, was \$1.25. The garage proprietor advised that his usual charge was \$1.50, but in view of the inclement weather a concession of 25 cents would be granted, and anxiously inquired if this figure were exorbitant. He assumed responsibility

for the condition of the weather. The rent trip constituted a total drive of 24 miles in a hard rain.

It was then necessary that the car with the burned-out connecting rod bearing be towed about $\frac{1}{2}$ mile to the garage and stored for the night; consequently arrangements were made with the garageman to do this, and also to tow the car to our establishment the next day so repairs could be completed as soon as possible. The following day being Sunday, the garage proprietor arose early and had the car in our repair department at 6 a. m.

The trip was over roads that were muddy, required the services of two men, meant a tow of 22 miles and a drive back home of the same distance. The machine pulled was a large touring car and was a severe test on the lighter car doing this heavy tow work, and the charge made for this service was \$2.

The financial irresponsibility of so many small garages in this vicinity is readily apparent when you are cognizant of the fact that so many of their charges are made on the same basis as the above.

The services rendered to the owner of the machine to be repaired were very valuable at the time, yet the accident cost the garageman considerably more than appeared, as the actual cost for services was several times higher than the charge made.

WE ARE UNDER THE IMPRESSION THAT THIS WILL PROVE INTERESTING TO GARAGE OWNERS WHO ARE ATTEMPTING TO RUN THEIR PLACES ON A BUSINESS BASIS AND ARE TRYING TO MAKE THE GARAGE A REAL BUSINESS ESTABLISHMENT INSTEAD OF A JOKE.

In this connection we wish to comment on your esteemed publication. We look forward to its arrival each week and consider the suggestions and articles invaluable to us in the conduct of our business.

Trusting the incident related will prove interesting to you, we are,

Very truly yours,

THE MUNCIE AUTOMOBILE CO.,
Muncie, Ind. E. T. Hanley, Treasurer.

A Jobber and a Manufacturer Who Are Opposed to Mail Order Houses and Their Practices

The following letters to Motor World require no comment. The Reinhard Brothers Co. is a big jobber in the northwest. The Silvex Co. is a manufacturer. Editor Motor World:

Dear Sir:

We are very pleased to note the attention you are giving the sale of accessories by the automobile dealer in your publication and notice with interest the article in your issue of the 14th relative to the mail order house.

It has been our policy for a good many years to sell automobile supplies to the wholesale trade only, and to assist the dealer in every way possible to promote the sale of supplies.

We often come in contact with retail customers who are purchasing through the mail order house. We are enclosing a copy of our correspondence to one of these individuals who was in the market for a carbureter. This will give you an idea of the argument that we are using and which we believe that the dealer can use to the best advantage against the mail order house.

We regret that we have no other correspondence at hand on this subject, as we are certain that there are numerous other communications in our files that cover the matter to better advantage, but it is difficult however to locate them.

We believe that this will however undoubtedly answer the purpose. At any time that we can offer you any assistance along these lines, we will be very pleased to do so.

REINHARD BROTHERS CO.,
C. T. Stevens.
Minneapolis, Minn., July 19, 1915.

THIS IS HIS LETTER

John Smith, Butler, N. D.,

Dear Sir:

Replying to yours of recent date relative to carbureter, we note that you state you can purchase a carbureter cheaper through Sears, Roebuck & Co.

It is possible that if you look around you can save a little money on the purchase of carbureters. We trust, however, that every one in your town does not go through the same course in the purchase of their merchandise.

We do not know what the nature of your business is, but if you check the matter up carefully we believe that you will see that your livelihood depends on the profit made on the sale of merchandise of some character or other through your fellow townsmen.

We feel certain that if you turn your business to one of your local repairmen or dealer in this carbureter, they will feel like reciprocating and turn some business your way in return.

At any rate we are not here to compete with Sears, Roebuck. We are handling the carbureter to the wholesale trade only and at the stipulated factory price. We will appreciate it if you will favor one of your local dealers or repairmen with the order for carbureter equipment.

Yours very truly,
REINHARD BROTHERS CO.
Minneapolis, Minn., June 15.

Editor Motor World:

Dear Sir:

As an advertiser in your publication we have noted with a great deal of in-

terest the campaign you are now running along the line of attempting to eliminate from the automobile accessory field so far as possible the "Mail Order Octopus."

As manufacturers of the Bethlehem Five Point Spark Plug and as extensive advertisers in your publication we wish to congratulate you upon the stand you are taking in this matter.

The Silvex Company has laid down as its policy that hereafter its Bethlehem Five Point Spark Plugs are no longer for sale as far as these mail order houses are concerned. We do business at the present time exclusively through the large legitimate jobbing houses. We have recognized for a long time that the successful manufacturer must choose one of two paths. If he expects the cooperation of the live up-to-date jobber, he must give that jobber his undivided support. If, on the other hand, he prefers to do business with the mail order house, why, of course, he must proceed on that basis. There is no middle path. The manufacturer who follows the latter course is not entitled to the support of the legitimate jobbing interests of the accessory business.

We write you to express our appreciation of the noble campaign you are running and to advise you that as manufacturers of the Bethlehem Five Point Spark Plug we will be glad to give you our hearty support.

Very truly yours,
THE SILVEX CO.,
E. H. Schwab, General Manager.
New York, July 30, 1915.

The RETAIL NEWS

EAST

The Paige Motor Co. of Boston has removed from 889 Boylston street to 595 Newbury street, the newer automobile row.

The Baker-Price Co. has been formed in Philadelphia by P. M. Price and W. Spohn Baker, both former Kissel salesmen; they will handle the Kissel at 2031 Market street.

The Elite Garage, Baltimore, is being built on McElderry street, between Montford and Patterson Park avenues. The new building will have 8,125 feet of floor and will have a capacity of about 50 cars. A complete repairshop will be one of the features. The proprietors will be John Leo Miller, John Bower and Howard Paladay.

The Ford Motor Co. has opened a branch in Syracuse, N. Y. The Syracuse Motor Car Co., of which Silverman & Grody are the proprietors, and which handled the Ford for several years, has taken the Saxon agency and has also given up the Paige.

The Normington-Allan Co., Rochester, of which George W. Allan and Mark H. Normington are the owners, has taken the distribution of the Marion and Briscoe.

The Seneca Motor Car Co., Rochester, has taken the Chalmers agency. It has discontinued the Paige but will continue the Peerless, Baker and Rauch & Lang.

The Sullivan Sales Co., Newark, N. J., has opened up at 9-11 Hill street to sell the Sullivan truck, made by Sullivan Bros., Rochester, N. Y., old wagon manufacturers. The proprietors are R. Craig Van Deventer and J. B. Taylor.

Stevens' Paca Stables, 3-7 North Paca street, Baltimore, has remodeled part of the building as a 45-car garage. The establishment has been operated as a stable for 56 years.

The Commercial Truck Co., Harrisburg, which handles the Brockway truck, has moved into larger quarters at Howard and Union Square streets. E. J. Cavender is manager.

L. H. Hagerling has purchased the Hudson and Hollier agency from I. W. Dill, one of Harrisburg's pioneer dealers. Dill will act as central Pennsylvania agent for the Hollier.

The Packard Motor Car Co. of Philadelphia, which has a branch in Harrisburg, has put on a force of mechanics and will make Harrisburg a service station.

The Harrisburg Overland Co., with G. R. Hanson in charge, has been organized to distribute the Overland in ten central Pennsylvania counties. Andrew Redmond will continue to sell the Overland in Harrisburg.

SOUTH

A. L. Boorse has opened salesrooms in Birmingham, Ala., at 209 South 21st street. He styles his business the A. L. Boorse Motor Car Co. and handles the Chalmers.

The Highland Auto Supply Co., Louisville, Ky., has been formed by E. G. Schoen, president; H. J. Schoen, vice-president, and A. S. Escott, secretary

and treasurer. It is located at 813 South Third street and will handle the Schebler carbureter and stock accessories and supplies.

The Paige Motor Sales Co., which secured the Paige agency in the Louisville territory August 1, has opened an office and salesroom at 725-729 South Fourth street, formerly occupied by the Kentucky Motor Car Co. Edward A. Briel is president and manager of the new concern. The Paige heretofore has been handled by the Motor Sales Co., Saxon dealer, 728 South Fourth street.

The Louisville Tire Co. has moved into a new tire and accessory store at 666 South Third street. F. W. Weisenberger is the manager.

MIDDLE WEST

The Pullman Motor Car Co. plans to open salesrooms and offices in Cincinnati at 1003-5 Race street. The premises have been leased for 10 years for \$13,000.

The Wood Oakland Automobile Co., Cincinnati, will open up at Ninth and Sycamore streets as an Oakland wholesaler to five states. Fred C. Wood, former Pittsburgh and Cleveland Oakland branch manager, will be in charge. The premises have been leased for five years for \$9,000. The retail business remains with the Jungclas Automobile Co.

The Toledo-Saxon Co., Toledo, has been formed to distribute the Saxon in 24 counties of northwestern Ohio. The president and treasurer of the company is Guy R. Ford, who, unincorporated, heretofore has controlled four counties with the Saxon. The other officers are: Vice-president, A. H. Peiter, a banker; secretary, Charles Hartman, a lawyer.

The I. J. Cooper Rubber Co., Cincinnati, which recently enlarged its headquarters, plans to enlarge its Dayton branch. It distributes the Racine tire in seven states.

The Meridian Street Garage, Indianapolis, Horace Wood, proprietor, will soon be housed in a large three-story building at Meridian and Ohio streets. Wood states it will be the largest garage in Indiana.

The Darnelle Motor Sales Co. has been formed in Indianapolis to distribute the Madison.

The Belleville Auto Co., Belleville, Wis., has been sold by N. H. Gerber to J. H. Gerard.

J. W. and J. H. Meiklejohn, Waupun, Wis., have purchased the interest of Mrs. E. C. Warford in the Meiklejohn & Warford Co. The style has been changed to Meiklejohn's Garage. The Ford is handled. A story on Meiklejohn's merchandising methods was the feature in Motor World July 21.

Edward Borchardt, Edgar, Wis., is about to open a garage. He formerly was employed in a garage in Milwaukee.

H. R. Mitchell, Milwaukee, plans to open a Ford salesroom in Prairie du Chien, Wis.

The Achen & Scott Motor Co. has been formed in Kenosha, Wis., and is erecting a two-story concrete and brick garage on Park street near Ashland avenue. It will handle the Chandler and Oakland and the GMC truck. The ter-

ritory will include Kenosha county and half of Walworth. The firm members are Dr. F. W. B. Achen, former sheriff, and Thomas Scott, formerly an ice dealer.

Frank Morris, Chippewa Falls, Wis., has leased and will operate the Barker Garage, 16 East Spring street.

The Flugstad-McManners Auto Co., Black River Falls, Wis., has entered business. It will handle the Ford. The proprietors are Ray McManners and O. C. Flugstad.

Forrest A. Richards, Reinhold A. Guentherberg and Karl J. Wand-schneider, Watertown, Wis., have purchased the Davis Film Exchange building on North Fourth street and will open a garage.

The Meill-Blumberg Co., New Holstein, Wis., has opened a branch in Chilton, on State street. The Ford is stocked.

Miles Colligan, Wild Rose, Wis., has succeeded to the garage business of Stone & Johnson.

The Badger Welding & Cutting Co., Green Bay, Wis., has been launched by Walter F. Gerald; he will operate a repairshop at 127 South Barcaley street.

J. R. Henderson, Shawano, Wis., is about to open a garage. A new 40 x 100-foot building is being erected for him.

C. J. Conohan, 388 Brady street, Milwaukee, will build a brick and concrete garage and repairshop at Brady street and Warren avenue. It will be 77 x 80 feet and one story.

A. F. Schunk, Milwaukee, has awarded contracts for a garage and repairshop on Louis avenue, near Clarke street, to be of concrete construction, one story, and 46 x 143.

Kuntz & Ellis, Juneau, Wis., have taken occupancy of a new brick garage and repairshop.

The Calumet Garage Co., Calumet, Mich., has been purchased by Frank H. Getchell, who has been manager. The company handles the Ford, Mitchell and Buick.

Frank D. Travis and E. H. Ingraham, Plainwell, Mich., are building a garage, 45 x 105. It has two stories and a basement.

The Western Michigan Oakland Co. has been formed in Grand Rapids to handle the Oakland, C. M. Crapo, of the sales department of the Oakland Motor Car Co., Pontiac, has been appointed manager and P. C. Johnson, formerly with the Barkwell-Buick Co., retail sales manager. Headquarters are at 210 Ionia avenue, northwest.

Riley Traxler is to open a salesroom and service station in Grand Rapids, having taken the agency for the Winton.

The Briscoe Motor Sales Co., Jackson, Mich., has been made Chalmers dealer.

C. A. Fitzgerald, Milford, Mich., has taken the agency for the Overland and will open a garage and salesroom.

R. E. Fair, Detroit, for many years a Ford salesman, has opened a Ford agency at 218-220 North Rose street, Kalamazoo.

William Harlow has secured the Kalamazoo agency for the Dort and is established at 425 East Main street.

The Champaign Rubber Works, Champaign, Ill., opened for business this week with a complete line of supplies

and accessories and a vulcanizing department. J. E. Moore is manager.

Danielson & Andrews, Loda, Ill., will erect a brick garage. It will be ready for occupancy December 1.

The Cadillac Co. of Springfield, Ill., has moved into a new garage building at 224-226 West Edwards street. D. U. Smith is manager.

Frank Miller, Mackinaw, Ill., has purchased a lot and let the contract for a one-story fireproof garage and sales station. Accessories will be carried. The building will be ready in the fall.

H. A. Reuling & Son, Pekin, Ill., have opened a new garage. One floor will be devoted to storage and another to repairs and sales. This company handles the Westcott. Accessories will be stocked.

Thomas Cay, Streator, Ill., who has been operating a taxicab service in Streator, has leased the Finlen building on West Main street and will convert it into a garage.

J. W. Kelly, Rockford, Ill., has leased a new building on Green street and will conduct a repairing business.

The Stearns Motor Sales Co., of Cleveland has been incorporated at \$10,000 by R. H. York, H. B. Fleming, Gustav von den Steinen, F. G. Van Cleef and C. M. Horn.

The Safe Motor Sales Co., of Cleveland, has been incorporated at \$25,000 by Henry J. Foster, Herbert D. Andrews, Haynie L. Shire, George A. Hempstead and Carl A. Walder.

The Gage Auto Co., Logan, O., has been incorporated at \$10,000. The incorporators are W. I. Gage, C. R. Lutz, Elizabeth Gage, Blanche Lutz and J. A. Nail.

The Dawson Garage & Sales Co., Canal Dover, O., has been formed with a capital stock of \$20,000. The incorporators are William A. Dawson, Lizzie Dawson, F. E. Miller, Emile E. Shaw and Russell J. White.

The United Tire & Rubber Co., Mansfield, O., has been incorporated at \$1,000 to deal in tires. The incorporators are Jesse B. Wainwright, Jacob Reinhardt, C. R. Ozier, F. B. Remy and C. J. Colwell.

The Gamble Motor Car Co., 1211-15 Madison avenue, Toledo, has taken the agency for the Dort.

The Hinkle Tire & Rubber Co., cen-Ohio distributor of the Mohawk tire, has moved from 186 East Gay street to larger quarters at 179 East Gay street.

The Hoffman-Moore Auto Co., Danville, Ill., has sold the Ford agency to Barker & Gregg, two young men from Detroit. Archa E. Hoffman located in Danville three years ago and has placed about 800 cars in Vermillion county. The retiring firm has made no plans known as to what it expects to do in the future.

NORTHWEST

Danley & Nason, Manhattan, Mont., have let the contract for a new garage; they handle the Reo and operate the Auto Inn, on Railroad avenue.

A. W. Vernor, formerly of Chicago, has opened an accessory store in Fargo, N. D. It includes a vulcanizing plant.

A Ford Service Station is being opened in Council Bluffs, Ia., by the Ford Motor Co., Detroit, at 612 South Main street, the former location of the Marion Auto Co., the Ford dealer. J. W. Hutchins will be in charge. The Marion com-

pany, which continues the dealership, has moved to the Steinbaugh Garage building on Upper Broadway, while its vacated building is being remodeled.

W. S. Kyte, for four years wholesale and retail supply manager for the Nebraska-Buick Auto Co., Lincoln, has been made manager of the Automobile Supply Co., 266 Seventh street, Dubuque, Ia. The latter is a new company, of which A. F. Schrup is president.

The Hausman Auto Co., Long Prairie, Minn., has just completed a fireproof garage, 66 x 140, with a roomy salesroom. The Hupmobile, King and Dodge Bros. are handled.

G. A. Monnie, proprietor of the Star Garage, Browerville, Minn., has just taken possession of a new fireproof garage, 72 x 110.

H. J. Bishner, Wells, Minn., has opened a public garage which he has named the Motor Inn.

Hill Bros. are erecting a garage in Lamberton, Minn., on the site of their former garage.

C. W. Gleason has bought the garage of Bowman & Airhart, Farmington, Minn.

Frank W. Runchy has opened a garage in Granite Falls, Minn., in the former Sween machine shop.

Achter & Braaten, Glenwood, Minn., are enlarging their garage.

C. W. Moore, Ford representative in Minot, N. D., has let the contract for a large fireproof garage.

SOUTHWEST

The Arnold Automobile Co., Wichita, has opened a branch in Hutchinson, Kan., at 22-24 Sherman street west, the former Maxwell location. M. L. Arnold will be manager and H. A. Fletcher resident salesman. The company handles the Packard, Chalmers and Dodge Bros. and the Woods electric.

Charles B. Stevens and Fred Elliott, El Paso, have purchased for \$21,000 from S. C. Aubrey a garage on North Kansas street between Missouri and Wyoming streets. The property fronts 52 feet.

Leo J. Trost has established the Franklin Motor Co. in El Paso at Campbell street and Myrtle avenue and will distribute the Franklin. His quarters, formerly occupied by the Alamo Tire Co., are being remodeled. Trost directed Franklin sales when the agency was held by the Oakland Auto Sales Co., which is now concentrating on the Oakland.

The Mission Garage, El Paso, has taken the distribution of the Chevrolet. The company also handles the Cole.

The Lone Star Motor Co., El Paso, has opened new salesrooms; 3,000 people attended the opening. The company handles the Hupmobile, Chalmers and Dodge Bros.

The United States Tire Co. has opened a branch at 21 Sherman street east, Hutchinson, Kan., which will cover southwestern Kansas, eastern Colorado, Oklahoma and part of Texas and New Mexico. Arthur H. Lewis is manager. Four traveling men will work from this branch.

Lahr & Jansen, Tulsa, Okla., who have operated a repairshop on East Third street, have leased a large no-post garage at 419 North Main street; they will feature service and repairs.

The Newell Motor Car Co., 304 North Twelfth street, St. Louis, Haynes dis-

tributer, has enlarged its territory; in addition to Missouri and southern Illinois the company now has Arkansas and part of Kentucky. James E. Newell, the proprietor, plans to open a branch in Little Rock.

The Sperreng-Oakland Co., 3436-38 Lindell boulevard, St. Louis, is the new name chosen by the Oakland Automobile Co. The change is made to avoid confusion with the manufacturing company, the Oakland Motor Car Co., of Pontiac. H. G. Sperreng is president and H. C. Sperreng, manager.

The Sterling Supply & Service Co., St. Louis, is erecting an 80-car garage on Euclid avenue between West Pine and Laclede streets at a cost of \$20,000. The members of the company are Gustave Koerner, J. Hagelstein, Charles F. Betz and Gus Starmann; the latter will be shop superintendent.

The George C. Brinkman Motor Car Co., 2318 Locust street, St. Louis, has taken the Maxwell distribution in Franklin, St. Louis and Jefferson counties, Missouri, and St. Clair and Madison counties, Illinois. The company continues the sale of the National and the Mack and Saurer trucks. The showroom front is to be improved and the concrete floor covered with a more ornamental material. The Colonial Motor Car Co., of which W. C. Shields is manager, and which formerly handled the Maxwell, will continue as a Kissel dealer.

The Acton-Parke Auto Co., 1798 Grand avenue, Kansas City, Mo., has been reorganized. C. B. McLaughlin has been made manager. The salesrooms are to be remodeled and distribution of the Maxwell from this point is to be made more extensive.

The Bush-Morgan Motor Co., which was recently formed in Kansas City by Roy R. Bush and W. H. Morgan, former Velie factory men, opened for business August 2 at 1526 Grand avenue. The company handles the Paige.

The Hudson-Brace Motor Co., Kansas City, is building a shop and service station, 50 x 112½, at the rear of its present building, 1717-19 McGee street, but fronting on Oak street. Between the old and new buildings will be a 20-foot concrete parking space, and the whole layout will be on one floor. The company handles the Hudson; W. J. Brace is president. When the new building is done the present structure will be used for salesrooms and temporary storage of new cars.

MOUNTAIN STATES

The Commercial Garage has been opened in Trinidad, Col., by D. J. Penno, in his own 60 x 120 building on Commercial, Broom and San Pedro streets, near the center of the city. The building is fireproof and, with basement, furnishes 9,600 feet of floor, being the largest garage in Trinidad.

PACIFIC COAST

The McCracken Motor Co. has opened up in Portland as distributor of the Denby truck in Oregon and southern Idaho. The principals are James McCracken and son.

The Mack Motor Truck Co., Los An-

A \$500 Order

Page 5

geles, has found larger quarters necessary and has located at 1032-36 South Olive street, formerly occupied by the Maxwell agency. J. A. Stoner is manager.

H. B. Wynkoop, formerly in the motor car trade in San Francisco, has opened salesrooms in Long Beach, Cal. He has the Hudson and Dodge Bros. agencies.

The D. & D. Vulcanizing Works, 1046 South Main street, Los Angeles, has been purchased by A. P. Fuhner. He has been connected with this city's tire trade for some time.

George W. Nason and Frank D. Higdon have opened the H. N. Garage at 819 West Pico street, Los Angeles. R. W. Studleman, formerly a garage proprietor, will be shop superintendent. The garage will feature a 24-hour service.

The Los Angeles Ignition Works has moved into a new building at 1007-11 Main street, Los Angeles, and has taken the distribution of the Swan carbureter in Orange and Los Angeles counties.

CANADA

The Great West Motor Co., Winnipeg, has been organized for the purpose of taking over the business of the Canadian Motor Co., which has gone into voluntary liquidation. The new company has leased the two garages controlled by the Canadian Motor Co., and will conduct a garage and repair business but will handle no car agencies. The capital stock of the Great West Motor Co. is \$50,000 and the concern will be under the management of H. De Cew, who has been connected with the trade for some time in Winnipeg.

Change in Huntsman-Hotchkiss

PHOENIX, ARIZ., August 6—An important change has been made in the Huntsman-Hotchkiss Overland Co., Arizona distributor for all the Willys-Overland products. H. H. Hotchkiss, who has heretofore managed the Tucson office of the company, has assumed charge of the office and salesroom in Phoenix. D. B. Hutchins, former manager here, has become agent for the county of Cochise, which includes the cities of Douglas and Bisbee.

In the course of a recent northern trip Hutchins appointed subagencies as follows: Davenport & Kirkpatrick, Williams; Flagstaff Overland Co., Flagstaff; Winslow Overland Co., Winslow; Smith Overland Co., Holbrook.

Boston Overland Dealers Gather

BOSTON, Aug. 6—The 75 Overland dealers who handle that car in Eastern New England met at the Hotel Lenox Friday last week at a dinner as guests of the Connell & McKone Co. Joseph McDuffie was the guest of honor and he delivered a talk on the merits of the new Willys-Knight.

Van Speedometer on Three More Cars

ELGIN, ILL., August 6—The Van Sicklen Co. has closed contracts for the use of Van speedometers for the 1916 season with the Marmon, Monarch and new Detroit companies.



L. J. WHITE
White—El Paso, Tex.

District Representatives

XIX

This is No. 19 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

L. J. White is district representative of the White Co. in Texas and New Mexico, with headquarters in El Paso. He entered the business about six years ago, and, after having three years experience with White pleasure cars and trucks in San Antonio, was appointed to his present position in the early months of 1912. His territory includes the state of New Mexico and that portion of western Texas which lies west of the Pecos river.

Columbus Garages Must Be 187 Feet from the Street

Ordinances Going in Effect Apply to
Filling Stations as Well—Build-
ings Finished Prior to
August 15 Exempt

COLUMBUS, O., August 6—Two far-reaching ordinances adopted by the city council for the regulation of public garages and gasoline filling stations become effective August 19 and 22, under the law which allows 30 days after the signing of ordinances for the filing of referendum petitions. The ordinances in question were adopted by almost an unanimous vote of the city council and were promptly signed by Mayor Karb and made laws.

The ordinance regulating garages prohibits the building or the operation of a public garage closer than 187½ feet from the street where the property for 500 feet on either side of the garage is used exclusively for residences. Consent of two-thirds of the property owners in the space designated is necessary for the provisions of the ordinance to be set aside.

The other ordinance provides exactly the same limitations for the building or operation of gasoline filling stations. Garages and filling stations completed prior to August 15 are exempt.

Moore 30 Five-Passenger at \$660

MINNEAPOLIS, August 6—The Moore Motor Co., Inc., is placing on the market a five-passenger car, styled the Moore 30, which sells for \$660 including electric lighting and starting equipment. It is powered with a four-cylinder 3¼ x 4½ block motor, thermosiphon cooled, and lubricated by pressure feed and splash; ignition is by

Atwater Kent system and fuel is fed through a Stewart vacuum tank. The wheelbase is 106 inches and tires are 30 x 3½. The transmission elements include a Zenith disk clutch, three-speed gearset and floating axle. Springs are semi-elliptic front and three-quarter elliptic rear. Equipment includes a one-man mohair top, windshield, speedometer, electric horn, demountable rims and the usual tool equipment.

More Bodies Coming From Detroit

DETROIT, August 5—The Detroit Weatherproof Body Co. has been organized and incorporated, its capital stock being \$10,000. The officers are: President and treasurer, C. Haines Wilson; vice-president and general manager, Lawrence Moore; secretary, George D. Wilson. Temporarily the headquarters will be at 500 Clay avenue. The concern will make limousine tops, commercial car bodies and will also market a special body for Fords. The officers are well known in the trade. C. Haines Wilson is secretary-treasurer of the C. R. Wilson Body Co.; Moore was until recently director of sales of the Saxon Motor Co. and previously president of the Krit Motor Car Co.; Allen was purchasing agent of the Detroit Steel Products Co.

Wisconsin May Require Dimmers

MILWAUKEE, August 5—It is likely that a law requiring every motor car to be equipped with a device for dimming the headlights will be passed by the Wisconsin legislature, which is still in session. A bill of this kind was killed in the state Senate, but reconsidered and is now slated for passage. The bill also has a provision that it shall be unlawful to drive a car at such speed that it cannot be stopped within the distance ahead that the driver can see an object the size of a person standing in the roadway.

Repairing and Adjusting

Ordinary Polish Bad For Nickel

One of the worst enemies of nickel plating is ordinary metal polish. The existence of drastic detergents in these so necessary for removing heavy tarnish from ordinary metals like brass and copper, but so undesirable for use on nickel plating, can generally be very readily detected by the smell. Some of these polishes may do very well for removing very heavy tarnish from nickel plating, but thereafter the plating should be kept in high resplendency by occasional wiping with a polish especially prepared for that purpose.

A rough way of determining the fineness of the abrasives in a polish is based upon the fact that ordinarily the coarser the particles of the polishing powder, the quicker they will settle. Abrasives for quick removal of heavy tarnish from brass, steel, etc., yet without harming them, settle so readily as to require occasional shaking of the polishing mixture while using it; but abrasives so inconceivably delicate as those required to properly conserve and care for nickel plating, should be so soft and fine and settle so slowly as to make comparative test quite easy.—Peter Kramer, Arminger Chemical Co., Chicago, Ill.

How To Insert Corks

In making a replacement of cork clutch inserts in a repairship not properly equipped, the surfacing of the corks is usually accomplished by rubbing each disk on a piece of sandpaper. The result is seldom satisfactory, as the corks are not flat and even and do not give the full bearing surface which is necessary.

It is absolutely necessary that the corks be perfectly dry and show a full bearing surface. This latter point can only be ascertained by rubbing them flat on a surface that has been covered with Prussian blue or lamp black, using only a very thin coating. The greater the bearing surface obtained, the longer the corks will wear and the lesser the spring tension necessary.

C Clamp for Magneto Setting

A small C clamp (Fig. 1) was used recently in correcting the setting of a magneto. From the way the motor ran it seemed that the spark was too late; the flywheel was enclosed and it was

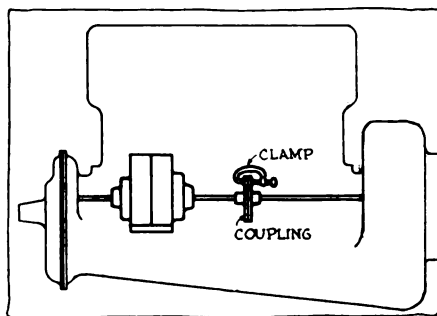


Fig. 1—How C clamp was used to vary magneto setting

difficult to check up with the marks on the flywheel, and a solid cylinder head made it hard to get to the pistons. Changing the setting of the magneto to determine whether this would correct the trouble seemed the best way out of the difficulty, but the coupling was so made that there was no room for adjustment. This obstacle was overcome, however, by removing the bolts of the coupling and clamping the two halves together with a small C clamp. Several settings were tried until a satisfactory one was found, and not once during the experiment did the clamp allow the two halves to slip.—Herbert Rudy, Lima, O.

Soft Brushes Cause Slow Cranking

Soft brushes sometimes cause starter trouble. When the cranking speed drops and inspection proves the battery and connections to be all right, there is great likelihood that soft brushes are the cause.—A. J. Seery, Hoosier-Overland Sales Co., Dayton, O.

Emergency Brushes for Starter Use

Emergency brushes for starting, lighting and ignition work can be made from old dry battery carbons after they have been soaked for a few hours in ordinary electrolyte to soften them.—A. J. Seery, Hoosier-Overland Sales Co., Dayton, O.

Directions for Truing Commutators

After the commutator has been trued in the lathe, a sharp instrument should be used to cut away the particles of copper that may bridge the gaps between the segments, thus causing a short-circuit.

Retarded Throttle Primes Carbureter

A very simple way to prime the carbureter for easy starting is to attach the throttle lever to the carbureter priming device in such a way that when the throttle is fully closed the carbureter

is primed. As soon as the motor starts the throttle is opened.

Don't Overlook Rectifier Bulbs

The life of rectifier bulbs is greatly shortened by overloading them. They should never be called upon to carry a current greater than their capacity states.

How To Frost Glass

Lamp frosting may be done very cheaply and conveniently by dipping the bulbs in a solution of 2 ounces sandarac, ½ ounce mastic, 22 ounces ether and 16 ounces benzine. The mastic and the sandarac should be ground together and mixed with the solution of ether and benzine. The frosting is accomplished by dipping the lamps into the solution.

Two Good Body Polishes

A much recommended body polish is made by mixing the following ingredients:

Turpentine 1 gallon
Paraffine Oil..... 1 pint
Oil of Citronella..... 3½ ounces
Oil of Cedar..... 1½ ounces

Another scheme is to use a mixture of boiled linseed oil and turpentine, applying it sparingly and rubbing absolutely dry.

Cause of Sudden Stoppage of Ford

When a Ford stops suddenly due to failing ignition it will often turn out that the trouble is due to a particle of dirt under the magneto contact brush.—Karl Hassenzahl, Gossard's Garage, Washington C. H., O.

How To Cut Clutch Leather

When it is necessary to cut a clutch leather and there is no pattern to go by, the following method may be used:

Obtain the angle of the cone surface and produce these lines until they meet at a point (Fig. 2). Taking this point as a center inscribe two arcs on the sheet of leather with radii equal to the distances of the inner and outer edges of the clutch leather. Then cut on these lines. The length of this strip can be determined by measuring the clutch spider circumference with a string.

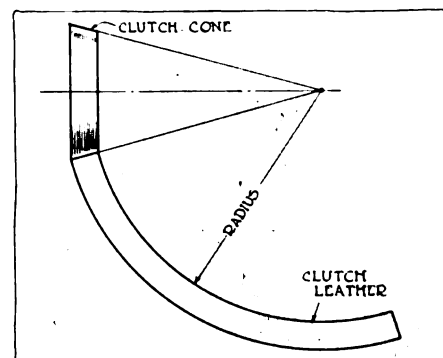


Fig. 2—Diagram showing how clutch leather shape is found

The cocksure repairman often wastes time locating a trouble because it lies just where he is SURE it is not.



WILLIAM P. BARNHART
King, Washington, D. C.



THE BARNHART SALESROOM—(X) WILLIAM P. BARNHART

THE second oldest dealer of the King Motor Car Co., Detroit, is William P. Barnhart & Co., 1707-9 14th street, N. W., Washington, D. C., which has handled the King since the month of May, 1913.

William P. Barnhart, the head of the firm, and Paul Barnhart, are both trade veterans. William P. is a pioneer dealer. He is credited with having introduced the first motor car sightseeing lines in America, in 1902 and 1903, using electric trucks and operating in many cities, from Quebec to New Orleans and Havana, Cuba.

In 1905 his transportation experience was utilized with the E. R. Thomas Motor Car Co., Buffalo, as operating head of the various taxicab companies established by Thomas in Washington, Boston, New Orleans and other principal cities.

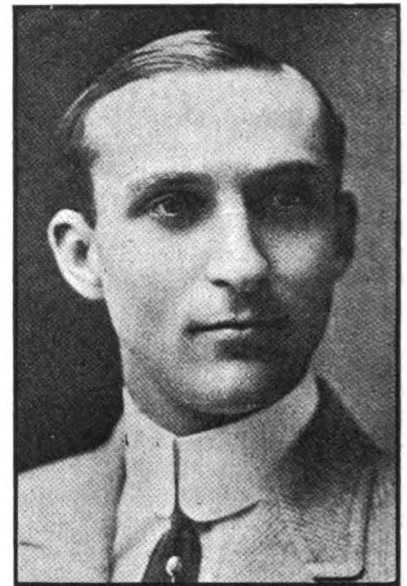
Later he was connected with the Everitt, Studebaker, Regal and other factories and later set up for himself in Washing-

Oldest Dealers

Men who have handled one car
for the longest period of time.
Others will appear in this series.

ton to distribute cars. The company handles the King and Pullman and distributes annually from 1,000 to 1,500 cars with an organization covering Maryland, Virginia, North Carolina and West Virginia.

Last January William P. won a prize in a King contest among distributors for placing the largest number of new dealers and selling the most cars during October, November and December. In addition to his motor car affiliations he is also an attorney, being a member of the bar of the District Supreme Court, of the Commonwealth of Massachusetts and of the state of Illinois. Cars, however, occupy most of his time.



PAUL BARNHART
King, Washington, D. C.



Barclay Uses 68 Feet for One Window Display

Being a dealer in Red Head spark plugs, James G. Barclay, 715 Main street, Buffalo, recently gave up the whole front to a display of the Grossman product.

There are 68 feet of windows, the store being on a corner. The display materials were furnished by the Emil Grossman Mfg. Co., Brooklyn, and the work was directed by a factory man.

The set-up is one being supplied to dealers by the company, and the Barclay display consists of about three complete window layouts.

Oklahoma Takes Gasoline Price Bull by the Horns

Orders Four Companies to Maintain a Uniform Price—State Conducted Investigation of Alleged Collusion

AUSTIN, TEX., August 5—The Corporation Commission of the State of Oklahoma has issued an order directed to the Pierce Oil Corp., the Texas Co., the Gay Oil Co. and the Magnolia Petroleum Co., requiring that hereafter they sell gasoline at a uniform price in all towns of Oklahoma, considering the cost of handling and freight charges.

Attorney General B. F. Looney of Texas is conducting an investigation into the combination for the fixing of prices of gasoline that is alleged to exist on the part of several of the larger refining and distributing companies. During the last few days representatives of the Magnolia Petroleum company and other concerns which supply the trade have been in conference with the attorney general in an effort, it is said, to reach a compromise agreement that would make the filing of suits for alleged violations of the anti-trust law unnecessary.

Several months ago when the larger companies took what was apparently concerted action in the matter of raising the prices of gasoline in this state an investigation into the matter was conducted by the attorney general's department. It is known that a large amount of testimony and evidence was obtained towards substantiating the charges of an alleged combine as to price regulation. It was on the promise of the alleged guilty concerns that the attorney general abandoned his intention of filing suit against them. He still has the evidence on hand, however, and it may be used in the suits which he is said to be planning to institute.

It is alleged by the attorney general's department that during the last few weeks there has been a total raise of 4 cents per gallon in the price of gasoline in Texas and that this raise has been uniform and on the same dates.

A. A. A. to Investigate Gasoline

NEW YORK, August 10—Why is there such a difference in gasoline prices? This is to be investigated by the American Automobile Association. A committee has been appointed, with Louis R. Spear, a Boston oil man and a former association president, as chairman, and he will present a report in October, although it may not be possible for him to have investigated fully by that time.

One thing the association wants to know is why gasoline can be bought in New Jersey for about 9 cents while

across the river in New York it costs from 16 to 20 cents. From these low ranges the price runs as high as 75 cents, which is charged in some of the more remote sections of the west.

If the investigation is pushed to the limit it will cover tests as well as prices, and important data should be obtained. Gasoline recently went up a cent in New York, its first jump in some time. Various reasons have been assigned by the oil companies for price differences and fluctuation, and now the association proposes to investigate the reasons, including the old standbys, Supply and Demand.

"Gas" Ordinance for Norfolk

NORFOLK, VA., August 9—The board of control has drawn an ordinance on gasoline storage which will be introduced August 17 in the city council. The ordinance provides that only 1 gallon of gasoline may be kept in the building, unless when it does not exceed 5 gallons it is contained in self-closing tight metal cans of a type approved by the board of control. For keeping more than 5 gallons in one building a permit granted by the board of control must be had. The ordinance provides further that it is unlawful to have as much as 1,500 gallons unless stored in one or more tanks with a tap below the level of floor, cellar or pit within 20 feet thereof. For more than 1,500 gallons the distance of such floors, cellars or pits varies with the amount. It is also declared unlawful to transfer gasoline into any room where there is a fire or light other than electric lights, and provides how transference shall be made. The provisions of the ordinance do not refer to gasoline in tanks of motor vehicles.

Enforcing Boston's Garage Rules

BOSTON, August 7—John A. O'Keefe, fire prevention commissioner of the Metropolitan district, has sent word to dealers and garagemen that reports from his inspectors show some of them are not living up to the law and that hereafter he will begin prosecution against offenders. He states that he has given them ample time to comply with the law regarding the sale and storage of gasoline, and also the putting in of non-combustible floors and fireproof walls. Unless a start is made by those who have not heeded the law he will begin to close them up, as he has that authority.

Anthony Makes Organization Changes

LOS ANGELES, August 9—F. A. Norberg has been made manager of the San Francisco Reo truck department of Earle C. Anthony, Inc. W. M. Brodie has been made Reo traveling representative in California. L. F. Reed has been made Fresno manager.

July Good Month with Metropolitan Car Men

Shortage of Cars Rather Than Lack of Sales Is the Complaint—Announcements Have Brought "Peak" in Orders

NEW YORK, August 9—July, instead of being slower than June, as is usually the case, proved equal to it if not better from a car sales standpoint, according to the statements of a number of metropolitan dealers and distributors. Dealers complain of a shortage of cars rather than a lack of business. One reason doubtless is that the rush of orders that follows new car announcements is out of proportion to the ability of the factories. The figures compare especially well with those of the same months a year ago.

Four hundred Buicks will be sold this month, stated Sales Manager W. L. Newton of the New York branch; business is 300 per cent better than a year ago. The smaller six is in greatest demand, the proportion being about five to one, the same as the manufacturing schedule.

Charles E. Riess, Hupmobile distributor, says business is double what it was a year ago and that July was the best month he ever had; 100 cars a month are being sold. Chalmers business is 25 per cent better than at this time in 1914. Ford is 135 per cent ahead of last year.

The C. T. Silver Motor Co., Overland, states that business compares well with that of a year ago despite the fact that July sales were not so great as those of June.

The Harrolds Motor Car Co., Pierce-Arrow, states that its only trouble is getting cars enough to fill its orders. Orders now are for deliveries not before September, and sales would be stimulated if it were possible to make earlier deliveries.

Wentworth-Fosdick's Big Territory

BOSTON, August 7—The Wentworth-Fosdick Co., which has just taken the wholesale distribution of the Dort, has part of Maine, southern New Hampshire and Vermont, Massachusetts, Rhode Island and Connecticut for its territory. The company probably will add another car in the \$1,200 to \$1,500 class as a wholesale proposition.

Winton Gets Newark Sub-branch

NEW YORK, August 9—The Winton Co. has taken over the Linkroun Automobile Co., 380 Central avenue, Newark, N. J., and will operate it as a sub-branch under its New York branch. A. T. Herbert will be manager.

Association News

Ohio Garage Association on the Way

COLUMBUS, August 9—An Ohio garage owners' association will be formed October 4, 5 and 6 at a meeting called by the Columbus Garage Owners' Association, to be held in this city. Notifications have been sent to 2,000 garagemen and repairmen. The meeting was to have been held early in the summer but was postponed because of the inability of the organizers to complete the preliminary work.

The provisional committee in charge of the work consists of: Chairman, F. E. Avery, of F. E. Avery & Son, 1199-1205 Franklin avenue, Columbus; secretary, Robert T. McClure; treasurer, George McDonald. Avery is Ohio vice-president of the Associated Garages of America and the Ohio organization will be modeled upon the lines recommended by the national body.

Dealers Meet and Eat in Philadelphia

PHILADELPHIA, August 7—With the new car selling season opening up the members of the Philadelphia Automobile Trade Association are finding good use for the grill and clubrooms of the organization at Broad and Callowhill streets. Meetings of dealer organizations are being held.

The Automobile Sales Corporation, which distributes the Cadillac, gave two dinners this week. One was to the mechanical division of its organization and was for the promotion of departmental efficiency. Plans were outlined by Secretary and Superintendent J. B. Dickson.

The other dinner and meeting was for the sales division and was addressed by Vice-president S. Stankowitch, Jr., and Sales Manager C. R. Cunliffe.

The Willys-Knight was the topic of interest at a dinner by the Overland Motor Co. of Philadelphia. Following the dinner Treasurer and Manager Harry Greenwood introduced Assistant Sales Manager J. H. McDuffee of the Willys-Overland Co., who devoted 2½ hours to the Knight car, the sale and promotion of which he is directing.

Would Make Motor Row One-way Street

ST. LOUIS, August 9—Locust street, which is the location of two-thirds of the members of the St. Louis Automobile Manufacturers' and Dealers' Association, is much perturbed over the proposal that this thoroughfare be made a one-way street during certain hours to avoid traffic congestion. The suggestion is that vehicles be allowed to travel but one way and be required when going in the opposite direction to use some other street.

That such a plan might be expedient downtown is admitted, because the downtown stores are not dependent upon traffic for their livelihood, whereas the motor car dealers, who have made Locust street from a dilapidated residence street into a fine business thoroughfare, not only are dependent upon vehicles but their whole trade is in and from vehicles.

The association is protesting the proposal and has secured a strong backing in influential quarters against the one-way plan. More than 80 per cent of the traffic from this side of the city uses Locust street.

Brooklyn Dealers Plan Outing

BROOKLYN, N. Y., August 6—At the regular meeting of the Brooklyn Motor Vehicle Dealers Association, held today, it was definitely decided to hold the annual outing, which is scheduled for Wednesday, August 18, at Karasoni's, Sea Cliff, L. I. There had been some talk of holding the outing at Freeport, but the plans subsequently were changed. The members will meet at 9 a. m. in front of the Motor Club of Brooklyn, 1255 Bedford avenue. Prizes won during the day will be distributed that evening following a buffet supper which will be served at the Motor Club.

Jersey Garagemen to Stand Alone

NEWARK, N. J., August 7—At the regular meeting of the Garage Owners Protective Association of New Jersey last Tuesday, the subject of amalgamating this body with the New Jersey Automobile Trade Association, the dealer body, was broached, but it did not receive very hearty support and likely will be dropped. The garage association is planning an active campaign to swell the membership list and will start immediately circularizing all the non-member garages in the county. The next meeting will be held on the first Tuesday in September.

Vacation With Brooklyn Garagemen

BROOKLYN, N. Y., August 7—The Brooklyn Garage Owners Board of Trade is not at present taking up any active work for the reason that most of the members are absent from the city on vacation. President Chas. F. Batt states that no meeting will be held during August, the regular monthly meetings being resumed early in September.

Milwaukee Show at State Fair

MILWAUKEE, August 7—The Milwaukee Automobile Dealers, Inc., which conducts the annual Milwaukee show in the Auditorium, has leased Machinery

Hall at the State Fair park near Milwaukee and during the annual State fair, September 13 to 17, will conduct its annual show. Machinery Hall has heretofore been devoted to motor cars and agricultural machinery, but this year is given over exclusively to cars. It measures 150 x 350 feet and is being wholly enclosed and made strictly fireproof as well as weatherproof.

McCall Begins A. G. A. Secretaryship

CHICAGO, August 9—All the data and work of the secretaryship of the Associated Garages of America has been turned over to the new secretary, F. E. McCall, by E. J. McGuirk, who has been acting as secretary following the resignation of McCall's predecessor. McCall's address is 72 West Adams street, Commonwealth Edison Co.

Columbus Garagemen Distribute Manual

COLUMBUS, O., August 6—The Columbus Garage Owners' Association has published and distributed a manual which was sent to every motor car owner in the county, containing the name of the owner on the front cover in gold letters. The manual contains a lot of valuable information for owners. A number of routes near Columbus also are contained in the manual.

Begins Credit List Tabulation

SAN FRANCISCO, August 7—The Garage Owners Protective Association of San Francisco has begun the compilation of data on poor pay car owners. This will be issued in bulletin form to members. The number of garages at which a car owner owes accounts will be indicated by a figure after his name. The lists will be for the use of members only and will be for their guidance in accepting credit accounts.

Montreal Posts Danger Signs

MONTREAL, QUE., August 6—The Montreal Automobile Trade Association is at present placing danger signs on the roads in the vicinity of this city. It is expected that by the end of the season upward of 2,000 signs will have been placed.

Franklin Runs 860 Miles on Low Gear

SAN FRANCISCO, August 7—J. W. McCormach, of Pendleton, Ore., in a Franklin car with all gears but the low removed, arrived in this city Wednesday after having driven the 860 miles from Walla Walla, Wash., without having stopped his motor. He left Walla Walla Sunday morning. The total time the motor was run was 83 hours, 40 minutes. The removed gears were forwarded to the John F. McLain Co., this city, after their removal in Walla Walla and were replaced after the car arrived here. The run was to test the cooling qualities of the air-cooled motor.

Dinner for Maxwell Men of Southern California

**Lord Motor Car Co. Entertains Them
and Discloses Plans for the 1916
Season—Many Dealers in
the Party**

LOS ANGELES, August 7—Maxwell dealers of southern California were entertained and shown the new line of cars at a banquet given last week by the Lord Motor Car Co., Maxwell distributor, at the Los Angeles Athletic Club. T. J. Toner, San Francisco, Maxwell representative, outlined the 1916 plans. The guests were:

C. C. Miller, Jr., Los Angeles; G. H. Grace, Pasadena; J. B. Adamson, Colton; Charles H. Rockwell, B. H. Sidnam, Anaheim; O. G. Manning, Monrovia; William J. Long, W. W. Hise-rodt, Whittier; R. H. Walter, John Griemsmann, San Bernardino; W. F. Hubbard, Bakersfield; J. M. Bradford, Rialto; Charles B. Perry, Santa Ana; E. J. Boeseke, Jr., Santa Barbara; F. C. Lawler, Jack Begg, Long Beach; A. N. Barber, Ray F. Barber, Arthur Erickson, Riverside; F. A. C. Drew, Ontario; George E. Morrison, San Diego; W. J. Booth, San Bernardino; J. D. Meyer, Alhambra; John A. Pirtle, Glendale; C. R. Young, Gardena; E. E. Booth, Pomona; E. A. Poe, Covina; P. A. Lord, Harry A. Lord, Teddy Tetzlaff, George W. Miller, Willard Barrows, Billy Carew, L. P. Clark, Ned A. Lord, J. E. Davey, C. F. Bohrmann, W. V. Lord, J. E. Taylor, W. H. Jones, B. S. Gerson, J. J. McDonald, Charles E. Irwin, R. E. Rohne, C. G. Reed, J. G. Armstrong, C. H. Arnold all of Los Angeles. L. E. Rawson, Ocean Park; V. C. Thompson, H. L. Boehme, W. H. Lynch and G. C. Boehme, Venice.

Maxwell Dealers Meet in Atlanta

ATLANTA, GA., August 7—All the Maxwell dealers from this section met last week at the Maxwell Motor Co.'s warehouse on Madison avenue to learn about the 1916 car. Those in charge of the affair were Zone Superintendent H. H. Howse, James P. Headley, his assistant, and C. P. Henderson, district salesman.

Milwaukee Registrations are High

MILWAUKEE, August 7—Wisconsin's motor car registration on August 1 reached 73,100, or approximately 20,000 more than the entire registry for the year 1914. There is no question now that the total registration for 1915 will exceed 75,000. The comparative figures on August 1 were:

	Aug. 1, 1914	Aug. 1, 1915
Motor cars.....	48,000	73,100
Dealers	1,150	1,520

Not only have private registrations increased enormously, but the number of dealers is much larger. The registration of dealers for 1914 showed a loss of about 350 compared with the 1913 total.

Doty Made Velie Distributer

OMAHA, August 10—L. E. Doty has been made Velie distributor in Nebraska

Dealer Factory Visitors of the Week

SAXON MOTOR CO.

Guy Ford.....Toledo
D. M. Williston.....Muncie, Ind.
Geo. Felix & Sons.....Salix, Pa.
R. D. Rockstead.....Milwaukee
C. N. Bowen.....Columbus, O.
J. E. Steward.....Indianapolis
Frank E. Hathaway.....Muskegon, Mich.
F. Y. Taylor, State Auto Co.....Salt Lake City
M. Y. Taylor, State Auto Co.....Salt Lake City
H. V. Smith.....Marion, Ind.

PACKARD MOTOR CAR CO.

M. W. Rudd, Luttress Co.....Richmond, Va.
W. D. Rogers, San Juan G. Co.....Orlando, Fla.
L. B. Fort, San Juan G. Co.....Orlando, Fla.
R. E. Campbell, Packard Cleveland M. Co.....Cleveland
D. C. Rand, Northern A. Co.....Jamestown, N. D.
F. A. Jones, Packard Motor Car Co. of Chicago
C. L. Hollister, Blue Ribbon Garage, Bridgeport, Conn.
M. Mathisen, Blue Ribbon Garage, Bridgeport, Conn.
J. V. Remsen, Blue Ribbon Garage, Bridgeport, Conn.

REGAL MOTOR CAR CO.

Charles Snyder.....Napoleon, O.
A. M. Zimbrich.....Rochester, N. Y.
Henry Nyberg.....Berlin, Ont.
D. A. Kennedy.....Shepherd, Mich.
J. L. Bayless.....Toledo
H. E. Legg.....Milwaukee
D. Wittenberg.....Milwaukee

PAIGE-DETROIT MOTOR CAR CO.

E. L. Smith.....Howell, Mich.
L. E. Kuhns.....Anderson, Ind.
E. G. Bates.....Dayton
Edwin A. Briel, Briel & Schwart.....Louisville, Ky.
J. J. Schwart, Briel & Schwart.....Louisville, Ky.
C. M. Montague.....Niles, Mich.

and western Iowa. Heretofore he has been connected with the Chevrolet. Charles R. Gardner, formerly manager of the Omaha automobile department of the John Deere Plow Co., Moline, has been made Velie district manager in Nebraska, Iowa, South Dakota and Wyoming.

Permanent Show Building for Topeka

TOPEKA, KAN., August 7—A committee of the Topeka Commercial Club, W. H. Imes, chairman, and Charles Cowdery, secretary, is arranging for a permanent motor car exhibition building at the state fair grounds. The first step will be to secure the cooperation of dealers. It is probable that the building will be permanent, with cement floors and probably open walls, so that the crowds may pass in and out conveniently. A show will be arranged during the fair week. The fair at Topeka this year will for the first time be a free event.

Six S. A. E. Navy Committee Nominees

NEW YORK, August 10—Of the nine members of the Society of Automobile Engineers asked to accept nomination for positions on the Navy Department Advisory Committee, six have accepted and voting is now in progress for the final selection of the two representatives of the S. A. E. for this committee. The six members who have accepted nomination are: Louis S. Clarke, vice-president and consulting engineer, The Autocar Co.; Howard E. Coffin, vice-president, Hudson Motor Car Co.; A. L. Riker, vice-president and chief engineer, Loco-

Reed Insley.....Whitehouse, O.
F. S. Snyder.....Albany
A. S. Hill.....Port Huron, Mich.
S. E. Dilbone.....Sydney, O.
D. S. Hoover.....Mansfield, O.
Frank Rayner.....Piqua, O.
R. D. Rockstead.....Milwaukee
B. G. Metterling, B. G. Metterling & Co.,
Bourbon, Ind.
D. S. Bowman, B. G. Metterling & Co.,
Bourbon, Ind.
R. W. Carr, R. W. Carr & Co., Charlotte, Mich.
Chas. F. Sattler, R. W. Carr & Co.,
Charlotte, Mich.
B. N. James.....Watertown, N. Y.
Wm. Alter and Son.....Lancaster, O.
O. F. Brown.....Silver Lake, Ind.

FRANKLIN AUTOMOBILE CO.

S. H. Lewis.....Binghamton, N. Y.
O. C. Belt, Belt-Barr M. Co.....Columbus, O.
S. K. Hatfield, Peoria A. Co.....Peoria, Ill.
G. A. Tisdale, Franklin M. C. Co.....New York
F. C. Jones.....New York
W. W. Garrabrant, Franklin M. C. Co.,
Utica, N. Y.
E. L. Benedict.....Utica, N. Y.
F. G. Jager, Springfield A. Co., Springfield, Mass.
E. D. Carlough, Mallon M. C. Co., Newark, N. J.
J. V. Bickford.....Hampton, Va.
W. F. Sanger, Sanger A. Co., Milwaukee, Wis.
C. S. Carris.....Chicago
F. A. Hartwell.....Troy, N. Y.
D. F. Garber.....Philadelphia
O. H. Coolidge, Rutland M. & A. Co., Rutland, Vt.

WESTCOTT MOTOR CAR CO.

Bryan & Sears.....Eaton, Ind.
Mr. Ludy.....Greenville, Ind.
Mr. Swihart.....Eaton, O.
F. Wilson.....Lewisburg, O.
W. F. Tedder.....Akron, O.

mobile Co. of America; John G. Perrin, consulting engineer, Continental Motor Mfg. Co.; William G. Wall, vice-president and chief engineer, National Motor Vehicle Co., and Rollin H. White, first vice-president of the White Co.

Celebrities at Indianapolis Show

INDIANAPOLIS, July 24—Governor Ralston will assist in the opening ceremonies of the Indianapolis Automobile Trade Association exhibit at the fair grounds during the state fair September 6-10. Mayor Bell has also consented to assist. The Chamber of Commerce will be represented by its president, Fred I. Willis, who is the chairman of the show committee and under whose direction much of the work of preparation is being done.

Plan 100-Mile at Indianapolis

INDIANAPOLIS, August 9—Sanction for an international 100-mile race on the Indianapolis speedway for a purse of \$10,000 was applied for today. It is planned for September 18, and it is expected that Cooper, De Palma, Aitken, Anderson and Rickenbacher will compete; De Palma has already accepted. The cars must come within the 300-inch limit. Half the purse will go to the winner.

A \$500 Order

Page 5

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

C. W. Hobson has been appointed Pacific Coast representative for the King Motor Car Co. in San Francisco.

H. P. Branstetter, Wabash avenue and 26th street, Chicago, who has handled the wholesale business for the Kissel Motor Car Co., covering Illinois and Indiana territory, has been given charge of the retail Kissel business in Chicago in addition.

H. G. Warnsholdt has been appointed branch manager of the Ford plant in Wichita, Kan.

L. J. Ollier, sales manager of the Studebaker Corp., has been named a director of that organization.

R. P. Bishop, who was assistant sales manager of the King Motor Car Co., Detroit, has been appointed sales manager in place of W. L. Daly, who has resigned to enter business for himself.

I. B. Meers has been promoted assistant sales manager for the King Motor Car Co., Detroit.

L. K. Cooper has been appointed supervisor of sales in Zone 4 by the Maxwell Motor Co., Detroit, taking the place of William D. Paine. His headquarters will be Detroit and his territory stretches from the Great Lakes to the Gulf of Mexico and includes auxiliary offices in Indianapolis and Memphis, Tenn.

William D. Paine, who was supervisor of sales of Zone 4 of the Maxwell Motor Co., Detroit, has resigned to become president and sales manager of the Detroit Commercial Co.

A. F. Bement, who was director of publicity of the Lincoln Highway Association, has been chosen to succeed A. R. Pardington, deceased.

A. B. Challinor has been appointed sales manager of the Hercules Sales Co., Louisville, Ky.

Frank C. Lindorfer has resigned as sales manager of the Atterbury Motor Car Co., Buffalo, to become manager of the Buffalo branch of the Bessemer Motor Truck Co., Grove City, Pa., covering the east. Norman B. Harrington, for four years with the Atterbury company, also has gone with the Bessemer branch.

Clarence A. Earl has resigned as vice-president and general manager of the Hendee Mfg. Co., Springfield, Mass., to become vice-president and a director of the Willys-Overland Co., Toledo. Be-

fore being associated with Hendee Earl was for 20 years with the Corbin Screw Corp., New Britain, Conn.

George L. Dingman has been made sales manager for H. A. Wetmore, Chalmers distributor in Sioux City.

H. D. Church has been appointed assistant chief engineer of the Packard Motor Car Co., Detroit.

Carl H. Wallerich has been appointed for the last five years has held the title a district manager by the Hupp Motor Car Co., Detroit. His headquarters will be in Indianapolis.

Benjamin O. Willebrands has been appointed a special representative of the Saxon Motor Co. for the Pacific Coast and states west of Utah. He was formerly representative for the Studebaker Corp. in the west.

M. L. Hart, until recently manager of the White Co.'s branch in Edmonton, Alta., has been placed in charge of the Montreal branch.

C. P. Cary has become affiliated with the Garford Motor Truck Co., Lima, O. He will become manager of the recently established factory branch in San Francisco, taking active charge of Garford interests on the Pacific Coast.

H. E. Heimberger has been appointed manager for the United States Rubber Co. at Terre Haute, Ind.

E. A. Scheu, formerly connected with the sales departments of Chas. F. Kellogg, Philadelphia, and the Invader Oil Co., New York, has joined the sales department of the White Star Refining Co., Detroit.

Hawkins Small District Manager
INDIANAPOLIS, IND., August 3—
C. E. Hawkins, formerly manager of the William Small Co. branch in Terre Haute, Ind., has been made district manager for the Small company and will cover the western part of the state and the counties in Illinois in which the Small company distributes Chevrolet and Monroe cars.

J. M. Shock Absorber to Distribute Tires
NEW YORK, August 9—The J. M. Shock Absorber Co. has secured the exclusive sales agency for National tires and tubes in Philadelphia and New York. It is proposed to make all repairs on National tires free of charge without affecting the list price of the tire or the 5,000-mile guarantee.

Studebaker Combines in Los Angeles
LOS ANGELES, August 9—The wholesale and retail business of the Studebaker Corp. has been combined at 1047-49 South Grand avenue; formerly part of the business was at 1620 East Seventh street. Paul G. Hoffman has been made retail manager. R. D. Maxwell remains wholesale manager.

10,000 Farmers Witness Gasoline Tractor Tests

Middle West's Utilitarian Demonstration at Champaign Does Much to Win Doubters Over to Gasoline Plow-horse

CHAMPAIGN, ILL., August 7—Ten thousand farmers attended the first Illinois tractor demonstration on a tract five miles south of this city last week. Rain limited the 4-day show to the two closing days, Thursday and Friday. A movement was launched Thursday night to give a similar event each year. It will be a tri-state affair, taking in Indiana, Iowa and Illinois. The second demonstration will be held in August, 1916, in Champaign.

It was suggested that all farm implements be exhibited in order to attract the farmers, but the tractor representatives and editors of the farm journals were opposed to this.

The demonstration was not a contest and no prizes were awarded. Its purpose was to give farmers an opportunity to see practically all the important makes of farm tractors doing actual field work and under conditions as nearly identical as possible.

To this end all fuel used was of the same grade, the depth of plowing and engine speed regulated, and every effort made to make the demonstration practical. The mornings were devoted to private demonstrations, at which the manufacturers were given considerable latitude in the kinds of farm work performed.

The formal demonstration took place in the afternoon. Each machine was allotted a strip of ground for plowing in accordance with the rules of the field manager.

The following exhibited: Avery Co., Peoria, Ill.; Bates Tractor Co., Lansing, Mich.; Bull Tractor Co., Minneapolis; Bullock Tractor Co., Chicago; J. I. Case T. M. Co. (Wallis tractor), Racine, Wis.; Corn Belt Tractor Co., Minneapolis; Dayton Dick Co. (Leader tractor), Quincy, Ill.; Dauch Mfg. Co., Sandusky, O.; Denning Motor Implement Co., Cedar Rapids, Ia.; Electric Wheel Co., Quincy, Ill.; Emerson, Brantingham Co., Rockford, Ill.; Ford Tractor Co., Minneapolis; Harrr-Parr Co., Charles City, Ia.; Heider Mfg. Co., Carroll, Ia.; Hoke Mfg. Co., South Bend, Ind.

Holt Mfg. Co., Peoria, Ill.; Huber Mfg. Co., Marion, O.; Hume Tractor Co., Hume, Ill.; International Harvester Co., Chicago; Joliet Oil Tractor Co., Joliet, Ill.; Kinnard-Haines Co., Minneapolis; Lawter Tractor Co., St. Marys, O.; Lion Tractor Co., Minneapolis; Parrett Mfg. Co., Chicago; Peoria Tractor Co., Peoria, Ill.; Sweeney Tractor Co., Kansas City; Steel King Tractor Co., Detroit; Universal Tractor Co., Columbus, O.; Waite Tractor Co., Chicago, and Waterloo Gasoline Engine Co., Waterloo, Ia.

Bad Weather Fails to Slow Western Car Sales

Despite Tremendous Rains and Flooded Roads, Kansas and Western Missouri Dealers Report Big Gains

KANSAS CITY, MO., August 6—What the motor car trade in Kansas and western Missouri would have been this summer had the weather been normal is beyond imagination. With rain practically every day, a large portion of the territory overflowed by rivers, thousands, almost millions, of acres of crops ruined by floods or rains, roads impassable, and conditions such that cars could not be demonstrated—even with these demoralizing conditions nearly every dealer reports gains over last year.

The largest gains seem to have been in sales to the country. It probably would be a fair statement, based on many inquiries, that the lighter and less expensive cars have been the more popular for the farmers.

The Maxwell agency at Kansas City, for instance, seems to have fairly definite data that these cars have gone with a rush into the country, for the gain in sales is over the whole southwest territory, being a gain of at least 50 per cent over the last two weeks of July in 1914.

The Ford gain, too, has been very general over the territory. The Bond Motor Co. has a hard record to beat in its tremendous sales of July, 1914, but it has exceeded them. It rather seems that the largest advances over 1914 have been made in the medium-priced cars, however; and this extends to both country and city.

Overland has been selling double the number of cars sent out last year, with a slight advantage for the rural trade.

The Studebaker agency was in its usual fix—sold far ahead, and held back for delivery. The Studebaker office has a close line on territory conditions; one phase of the report is enlightening—that in the spots actually flooded there has been a decrease in sales, but those spots constitute a small section of the territory. There were many districts practically unaffected by floods.

The continued rainfall damaged crops and set back business, but did not cause serious discouragement. The increases were less pronounced in the higher-priced cars; but the Oldsmobile showed a steady advance; the Hudson agency is now enlarging its accommodations because of growing business.

As the prices rise the percentage of increase decreases. Most of the agencies of more expensive cars have held their

own, many showing substantial gains. The Buick agency had a 50 per cent increase over last year's business and reports that it might have been 100 per cent had the cars been available. The Chalmers people also report a 50 per cent increase. The Cadillac sold in excess of 25 per cent over last year's deliveries. The Hupmobile agency does not give out definite information, but declares that the sales increase is equal to it not above that of any previous year for five years past.

In the more expensive cars the Packard people report a 25 per cent increase of sales over the 1914 season, with a tendency to greater demand at this time, during the last days of July, than has been realized earlier in the present season. The Locomobile reports a 33 per cent increase and the Marmon about the same. The Pierce-Arrow has a little better than held its own with last year's record, which those concerned seem to think was very satisfactory considering the financial situation.

The feeling all around is that the past 30 days have shown a marked improvement.

The Darn Family as an Advertiser

WASHINGTON, D. C., August 6—The Darn Family has recently been securing some publicity for the Henderson-Rowe Auto Co., which handles the Cole and Chevrolet in this city. The "family" consisted of a very "farmery" looking man, woman and little boy.

They would, for example, stop in front of a drug store and an argument would begin because Father Darn refused to give Mother Darn the price of an ice cream soda. When her tears had extracted a nickel from the pocketbook of a kind-hearted spectator the family would hand out little cards advertising the two cars.

Or they would enter a bank, explain that their wagon had broken down, that they had a coop of chickens they thought might be stolen, and that they wished to leave them in the middle of the bank floor. When this request was refused the pair would begin yelling at the tellers and would hand out the cards to the usual crowd that collected.

The stunt was practiced in department stores, business houses, in rival salesrooms, and drew such crowds that the police tried to interfere, but without result. The company states that the work proved very satisfactory as advertising.

Gives Sizes of Piston Rings

ROCKFORD, ILL., August 6—A directory of piston ring sizes, which gives the size of ring used by different cars has been issued by the Burd High Compression Ring Co. It consists of 133 pages and furnishes detailed data with which the average repairman is not very familiar.

Engineers' Data Sheets Valuable to Repairman

S. A. E. Distributing Sheets to Members Giving Information on Many New Standards Lately Adopted

NEW YORK, August 5—Members of the Society of Automobile Engineers have been supplied with a number of additional data sheets for the S. A. E. loose-leaf handbook. Among the sheets are those giving details of the most recently adopted standards of the Society.

The new standards, now in data sheet form, include those on yoke and rod end pin dimensions, large hexagon spark plug shells, large diameter thread pitches, standard sizes of pneumatic tires, recommended practice for pleasure car frames, side outlet carburetor flanges, large sized flared tube ells and tees and the new specifications for ground return electrical installations on gasoline cars.

In addition, the table of horsepower values derived from the N. A. C. C. (formerly A. L. A. M.) formula has been extended to cover eight- and twelve-cylinder engines. Conversion tables of percentage of grade to angle of grade are also included. Piston displacement tables for eight- and twelve-cylinder engines of from 137.4 to 1531.5 cubic inches are given. Two sheets are devoted to crank angles and corresponding piston positions.

The effect of altitude on horsepower development of gasoline engines is treated on three sheets, with curves and formulas. Diametrical and circular pitch tables, which are useful to engineers in laying out transmissions and other gear work, are given on four sheets. To the metric conversion data previously issued there has been added a table giving decimals of a millimeter for each thousandth of an inch. The sheets on the standardization of pipe thread gauges, total keyway depth, equivalent values of electrical, mechanical and heat units and the economical selection of belts and pulleys, make the handbook of greater value.

Simultaneously with the distribution of the new sheets a revised index has been issued containing exhaustive cross references.

Fort Smith Will Require Dimmers

FORT SMITH, ARK., August 6—This city will shortly publish the traffic ordinances, in preparation for which amendments to the ordinances are now being made to include as a requirement the use of dimmers on electrically-lighted cars; requiring drivers to raise hands when about to change course, and that slow-moving vehicles must travel as near the curb as practicable.

Motor Car Dealers Recently Established

COMMERCIAL VEHICLES

CALIFORNIA

Place	Car	Dealer
Los Angeles	Denby	Pacific Metal Products Co.

MICHIGAN

Birmingham	Republic	Cruze-Crawford Mfg. Co.
Detroit	Vim	The McKenney-Devlin Co.

OHIO

Youngstown	Vim	W. H. Benson Co.
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PENNSYLVANIA

Lancaster	Vim	S. A. Barley
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PLEASURE CARS

LOUISIANA

De Ridder	Regal	E. E. Carroll
Jeanerette	Oldsmobile	Arthur Wolford
Opelousas	Oldsmobile	P. King
Thibodaux	Oldsmobile	Chas. Y. Martin

MASSACHUSETTS

Boston	Hupmobile	Atlantic Auto Co.
Boston	Scripps-Booth	Scripps-Booth Motor Car Co.
Boston	Dort	Wentworth-Fosdick Co.
Boston	Allen	John L. Judd
Springfield	Scripps-Booth	Lyndon I. Philbrook

MICHIGAN

Au Gres	Dort	W. H. Shaiberger
Battle Creek	Ford	Cushman Auto Sales Co.
Fenton	Studebaker	C. A. Sutliff
Flint	Studebaker	Clarence Hetchler
Grand Rapids	Westcott	S. A. Dwight
Hudson	Oakland	J. A. Dillon & Co., Jr.
Litchfield	Dodge	Bert Hickok
Owosso	Dort	Owosso Auto Co.
St. Johns	Crow	E. S. Jolley
Unionville	Dort	D. C. Brady
Vassar	Dort	K. V. Mott

MISSISSIPPI

Oklaona	Pullman	W. L. Tyson
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MISSOURI

Kansas City	National	Pariah-Lynn Motor Co.
Kansas City	Herrf-Brooks	J. H. Snider
St. Louis	Premier	A. H. Sullivan & Co.
St. Louis	Herrf-Brooks	Mogul-Vulcan Sales Co.
St. Louis	Westcott	Westcott Motor Sales Co.
Springfield	Regal	Sam Herrick

MONTANA

Butte	Franklin	The Silver Bow Automobile Co.
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NEBRASKA

Roca	Overland	Charles Damrow
Roca	Willis-Knight	Charles Damrow

NEVADA

Elko	Franklin	The Simcox Garage
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NEW HAMPSHIRE

Nashua	Auburn	H. C. Dunn
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NEW JERSEY

Asbury Park	Oldsmobile	R. H. Ingalls
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NEW MEXICO

Roswell	King	H. T. Bailey Motor Sales Co.
Santa Fe	King	John H. Walker

NEW YORK

Batavia	King	King Motor Co.
Buffalo	King	King Motor Co. of New York
Buffalo	Winton	National Motor Car Co.
Dunkirk	Oldsmobile	James S. Pierce
Middletown	Scripps-Booth	Empire Garage Co.
Olean	Westcott	Mazza & Questa
Rochester	Westcott	Roy Snapp
Syracuse	Studebaker	C. A. Spear

NORTH DAKOTA

Fargo	Mitchell	The Wheelock Auto Co.
Fargo	Studebaker	M. A. Enders
New Rockford	King	J. R. MacKenzie

OHIO

Akron	Westcott	Akron Westcott Sales Co.
Columbus	Westcott	Westcott Motor Sales Co.
Ironton	Saxon	Wilbur E. Jones
Louisville	Westcott	Westcott Motor Sales Co.
Manfield	Westcott	Manfield Motor Sales Co.
Marion	Hollier	E. W. Owen Machine Co.
New Carlisle	Westcott	Ulery & Forgy
Springfield	Westcott	C. S. Burke
Van Wert	Westcott	Dayton Hard
Washington Court H.	Westcott	O. E. Powell
Zanesville	Scripps-Booth	Sharpe-Crawmer Motor Co.

OKLAHOMA

Oklahoma City	Saxon	Paige Motor Sales Co.
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OREGON

Portland	Scripps-Booth	H. L. Mann Motor Car Co.
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PENNSYLVANIA

Butler	Dort	Citizens Motor Car Co.
Cressona	Herrf-Brooks	I. A. Reber
Lebanon	Scripps-Booth	Keystone Garage
Pennsburg	Maxwell	Pennsburg Auto Co.
Philadelphia	Lozier	P. M. Price & W. Spohn Baker
Philadelphia	Apperson	Frank Fanning

Place	Car	Dealer
Wilkes-Barre	Herrf-Brooks	Darius Yeager
Williamsport	Scripps-Booth	Ralph B. Harlacker

RHODE ISLAND

Providence	Jackson	J. A. Macdonald
Providence	Westcott	Whitten Motor Vehicle Co.
Westerly	Herrf-Brooks	S. H. Davis

SOUTH DAKOTA

Aberdeen	Moline-Knight	K. O. Lee
Bonesteel	Metz	Ben Turgeon
Bruce	Hupmobile	V. G. Goodfellow

TENNESSEE

Chattanooga	Mitchell	Cash-Melton Hardware Co.
Knoxville	King	King Motor Sales Co.
Nashville	Paige	Nashville Motor Car Co.

TEXAS

Beaumont	Paige	Rupert Cox
El Paso	Oldsmobile	Mission Garage

UTAH

Salt Lake City	Franklin	The Franklin Motor Car Co.
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VERMONT

Proctorsville	Pullman	Proctorsville Garage
Proctorsville	Pullman	Proctorsville Garage

VIRGINIA

Abingdon	Regal	D. A. Preston
Mt. Jackson	Westcott	S. A. Moffett

WASHINGTON

Colfax	Moon	A. J. Davis
Spokane	Scripps-Booth	Signal Truck Co.
Tacoma	King	Field & Thoresen
Woolley	King	Chase Garage

WEST VIRGINIA

Clarksburg	Saxon	Cunningham Bros.
Huntington	Regal	Apperson & Regal Sales Co.
New Cumberland	Regal	Scott Bros.
Newell	Arbenz	Davis, Hardin & Cartmill
Wheeling	Regal	W. C. Knoblauch, Jr.
Wheeling	Arbenz	Wm. C. Eberts

WISCONSIN

Appleton	King	Main Auto Co.
Ashland	Franklin	F. P. McHardy
Darlington	Oldsmobile	Poole & Brunkow
Eau Claire	Studebaker	Eau Claire Motor Co.
Grand Rapids	Moline-Knight	C. L. Duncan
Janesville	Oldsmobile	E. A. Kemmerer
Manitowoc	Moline-Knight	H. C. Schuette
Menomonie	King	H. C. Knack

Motor Car Securities Quotations

No quotations for the corresponding date in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	Aug. 7, 1915	Bid	Asked
Ajax-Grieb Rubber Co., com.	300	..	..
Ajax-Grieb Rubber Co., pfd.	101	..	..
Aluminum Castings, pfd.	98	100	..
Chalmers Motor Co., com.	90	93	..
Chalmers Motor Co., pfd.	98	97	..
Firestone Tire & Rubber Co., com.	506	510	..
Firestone Tire & Rubber Co., pfd.	109	111	..
Garford Co., pfd.	..	..	..
General Motors Co., com.	263	265	..
General Motors Co., pfd.	105	107	..
B. F. Goodrich Co., com.	50%	51%	..
B. F. Goodrich Co., pfd.	104	105	..
Goodyear Tire & Rubber Co., com.	207	270	..
Goodyear Tire & Rubber Co., pfd.	105	106%	..
Gray & Davis, Inc., pfd.	..	..	..
International Motor Co., com.	19	20	..
International Motor Co., pfd.	43	45	..
Kelly-Springfield Tire Co., com.	170	175	..
Kelly-Springfield Tire Co., 1st pfd.	35%	36%	..
Kelly-Springfield Tire Co., 2nd pfd.	180	170	..
Lozier Motor Co., com.	..	..	..
Lozier Motor Co., pfd.	..	..	..
Maxwell Motor Co., com.	35	38	..
Maxwell Motor Co., 1st pfd.	84	85	..
Maxwell Motor Co., 2nd pfd.	33%	33%	..
Miller Rubber Co., com.	186	189	..
Miller Rubber Co., pfd.	104	106	..
Packard Motor Car Co., com.	120	120	..
Packard Motor Car Co., pfd.	101	101	..
Peerless Motor Car Co., com.	67	70	..
Peerless Motor Car Co., pfd.	94	96	..
Portage Rubber Co., com.	36	38%	..
Portage Rubber Co., pfd.	82	85	..
*Reo Motor Truck Co.	17%	19	..
*Reo Motor Car Co.	33%	34%	..
Stewart-Warner Speed. Corp., com.	61%	63	..
Stewart-Warner Speed. Corp., pfd.	105	107	..
Studebaker Corp., com.	63%	64%	..
Studebaker Corp., pfd.	103	104%	..
Swinehart Tire & Rubber Co.	85	90	..
U. S. Rubber Co., com.	47	48	..
U. S. Rubber Co., 1st pfd.	104	105	..
White Co., pfd.	103	108	..
Willis-Overland Co., com.	146	147	..
Willis-Overland Co., pfd.	103	105	..

*Par value \$10; all others par value \$100.

Place	Car	Dealer
Milwaukee	Crow-Elkhart	John Teller Auto Co.
Milwaukee	Westcott	H. Collins
Milwaukee	Velle	Velle Motor Car Co.
Pinedale	Oldsmobile	J. F. Paterson
Rawlins	Chalmers	Michel M. Rubner
Richland Center	King	E. L. Downs
Viola	King	Romer Kinder

WYOMING

Shoshoni	Oldsmobile	Stuchell & Junco
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Coming Events

*Indicates sanction by A. A. A.

Aug. 13	Flemington, N. J.—Track race meet, Matthews Auto Racing Association.*
Aug. 20-21	Elgin, Ill.—Elgin road races, Chicago Automobile Club.*
Aug. 25-26	Newport, Ind.—Hill climb, Newport Motor Club.*
Aug. 28	Kalamazoo, Mich.—100-mile track race, Kalamazoo Motor Speedway.
Sept. 4	Twin City, Minn.—Speedway race meet, Twin City Motor Speedway.*
Sept. 11	Burlington, Ia.—Track race meet, Tri-State Affair.
Sept. 17-18	Peoria, Ill. Convention of Garage Owners Association of Illinois.
Sept. 18	Providence, R. I.—Speedway race meet, Narragansett Park Speedway.*
Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
Oct. 2	New York—Speedway race meet, Sheepshead Bay Speedway Corp.
Oct. 4, 5 and 6	Columbus, O.—State convention; Columbus Garage Owners' Association.
October 7	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.
Oct. 16	Chicago—Speedway race meet, Speedway Park Association.*

THE SHOW CIRCUIT

Aug. 30-Sept. 3	Columbus, O.—Automobile show; Columbus Automobile Show Co.; Ohio State Fair.
Sept. 6-9	Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
Sept. 18-25	Los Angeles, Cal.—Eighth annual automobile show.
Oct. 2-9	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Oct. 3-10	Annual show, St. Louis Automobile Mfgs. & Dealers Association.
Oct. 6-16	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Sept. 17-18	Milwaukee—Show at State Fair by Milwaukee Automobile Dealers' Association.
January 1-8	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
January 22-29	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
Jan. 29-Feb. 5	Minneapolis Winter Show; Minneapolis Automobile Trade Assn., National Guard Armory.
March 4-11	Boston, Mass.—Fourteenth Annual Show; Boston Automobile Dealers Assn.; Boston Commercial Vehicle Assn.

MOTOR WORLD

THE DEALERS' NATIONAL

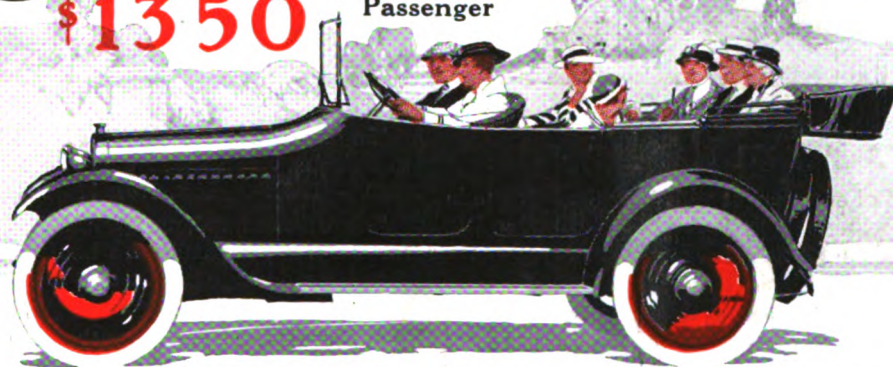
New York, August 18, 1916

Two copies a copy
Two dollars a year

Chalmers Six-40

\$1350

Seven
Passenger



40-Horsepower Valve-in-head Overhead Camshaft Motor

3 1/4" bore x 5" stroke (6 cylinders)
124-inch wheelbase
Multiple disc dry plate clutch, asbestos to steel
Three-quarters floating rear axle

Electric starting, lighting and ignition system
57-inch vanadium steel rear springs
34" x 4" tires, non-skid on rear
Demountable rims, one extra
Equipment complete, even to a Yale lock to prevent theft

A Big 40-Horsepower, 7-Passenger Touring Car at \$1350

This is the Lowest Price at Which Chalmers Quality Has Ever Been Sold

THIS remarkable price for this quality car is made possible only by our tremendously increased production for 1916, and by the installation of gigantic labor-saving, quality-producing machinery.

The performance of the Six-40 valve-in-head overhead camshaft motor is startling. It has been called the "20 per cent more power" motor and actually has this increased efficiency.

It is the same type of motor that all Europe had begun to use just before the war—the same type with which DePalma and Rosta averaged 90 and

98 miles an hour at Indianapolis and Chicago.

It is "trigger-quick" — gets away like a racer and pulls like a locomotive.

The Chalmers Six-40 is the first and only American stock car to be equipped with it.

It is a Quality Car with quality built into it in Chalmers shops.

It is supremely comfortable.

The rear springs are of special vanadium steel construction and are 57 inches long — the longest springs on

any car at the price, and the longest and most comfortable on any car at any price weight considered.

Take a ride in this car and prove for yourself that the motor has more smoothness, more flexibility, more power, and more "pep" than any other motor ever built of similar piston displacement.

All of our strength, all of our organization, all of our money, all of our reputation, are back of these six words:

"TAKE A RIDE IN THIS CAR!"

1916 Chalmers Models and Prices

Chalmers Six-40
7-Passenger \$1350

Chalmers Six-48
7-Passenger \$1550



Chalmers Master Six
in either Touring \$2175
Car or Limousine to
bodies, ranging from \$3350

Chalmers Motor Company, Detroit

"Let your next car be a Chalmers"

The "Square Deal" Campaign Is On



**"Remember the Dealer"
is the Battle Cry.**

**Dealers, Everywhere
are Rallying.**

News From the Front

"Your record of our account will show the increase in your business with us in **QUAKER TIRES** over last year is more than 500%."—A. R. & T. Co., Detroit, Mich.

"We have placed all sizes up to and including 37 x 5 and have tires that have been driven from 5,000 to 9,000 miles and have not a single tire worn out to date."—D. L. H., Lancaster, O.

"In most cases **QUAKER TIRES** have given a third to twice as much mileage as any tires previously handled."—T. K. G., Inc., New Haven, Conn.

"Have been handling **QUAKER TIRES** in this city for the last year, and have had to make only two adjustments during that time."—S. T. & R. Corp., Baltimore, Md.

"Your records will show that our **QUAKER TIRE** business has increased about 700% this year over last."—L. W. S., Kalamazoo, Mich.

TRADE MARK
QUAKER TIRES
REG. U.S. PAT. OFF.

The honest dealer, giving value and service to car owners, is responsible, in great measure, for the building up of the big tire businesses. This is the type of dealer—the only kind—we tie up with. But when we do select such a man, we treat him right under our "Square-Deal" policy.

You can with the utmost confidence offer these tires to your best trade, for back of every **QUAKER TIRE** are the facilities of an extensive plant and our reputation built up by *thirty years* in the mechanical rubber goods business.

Mill supply houses throughout the United States, Central and South America, Europe and Africa have handled our manufactures for many years. Our goods

are known to practically every manufacturing concern of importance in the country.

Therefore, you deal with an old established house of wide reputation when you stock **QUAKER TIRES**.

For more than *three years*, **QUAKER TIRE** sales have kept ahead of our steadily increased capacity, but a big new steel-and-concrete addition to our tire plant permits us to take on a few more high class dealers.

Write or WIRE for our "Square-Deal" proposition. Address, Mr. Carmit

QUAKER CITY RUBBER COMPANY

Factory and Home Office, PHILADELPHIA

CHICAGO
182 West Lake Street

PITTSBURGH
211 Wood Street

NEW YORK
207 Fulton Street

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The dealers are voting. Have you cast your ballot? January leads to date, but many districts are not yet in.

TRY THIS WINDOW SET-UP.....8

A suggestion that may easily be installed in a window of medium size.

1916 NEW CAR NEWS

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Parker of Decatur is the oldest Haynes dealer.



1,000,000 More Feet Of Floor Space Needed

The ever increasing demand for The Willys-Overland Company products has made greater factory space imperative.

In spite of shipments of 10,000 more cars to date this year than were shipped in the entire calendar year of 1914, even greater capacity is required.

Buildings containing 23 acres of much needed space are just being started.

This makes a total floor area of 102 acres *in our Toledo plant alone.*

These additions will make the Overland factory without doubt the largest factory in the world devoted exclusively to building automobiles.

Such a production scale means minimum cost of material and small overhead per car.

Overland owners get the direct benefit of these savings.

"Made in U. S. A."

The Willys-Overland Company,
Toledo - - - - - Ohio

Also Manufacturers of Willys-Knight Automobiles



MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, August 18, 1915

No. 7

Are YOU Guilty? Is It YOUR Garage?

If You Store Cadillac Car, Factory Number 83,273, the
Letter on This Page Is About YOU

The Letter Is an Indictment
of the Dirty Garageman

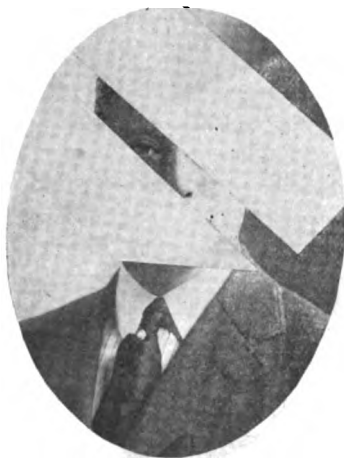
If the Coat Fits Put It On—It
Will Assure Greater
Profits to You

TO please the car owner should be the chief aim of the garage operator, because the car owner is the source of the garageman's income. Some garagemen seem to pay no attention to cleanliness or anything else. They simply drift, take what they can get and are not over-prosperous.

A car owner—the garageman's goose that lays the golden egg—has written to Motor World a letter in which he tells of conditions that are shameful. If they exist in any garage the proprietor can make no better investment than a mop, broom, water-bucket and a handful of soap. Is there dirt and oil on YOUR floor? This is not the only complaint that has been made against garage conditions, but it is one which the industry should make impossible of repetition.

THE LETTER SAYS:

While I am not
a garage owner I have
recently seen in one of the
copies of the Motor World
a story on the undesirable



This Is the Man Who Owns
Cadillac Car, Factory
Number 83,273

And This Is What He Thinks
of His Garageman

Aug 12 1915

Editor Motor World
New York

Dear Sir:—

While I am not
a garage owner I have
recently seen in one of the
copies of the Motor World
a story on the undesirable

condition in some garages,
and what you have said
fits in so well with my
own experience that I think
you may be interested in
it.

I have recently moved
twice from garages and have
yet to find a garage which
is what I believe the
businesslike garage should
be. It is necessary for me
to store my car part of the
time and for some time
I have been patronizing the
—— garage of which
the proprietor is a man named
——.

The floor of the garage
has never been clean and
for that reason I recently
moved out of it. The floor is
concrete and, it seems to me,
could be kept in good
condition, but it is permitted
to become covered with
dirt and oil which stand
in small pools on the floor

MOTOR WORLD

August 18, 1915

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and what you have said
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the proprietor is a man named
[REDACTED].

The floor of the garage
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dirt and oil which stand
in small pools on the floor

and is most injurious to tires.

It was more to protect my tires than anything else that I left the garage. I do not think sufficient care is given to those details which are indicative of good business.

From this garage I moved to another and while it was much better than the _____ it was so inconveniently located for me that I felt obliged to return to the garage where I originally stored. The conditions are about the same as they were before and I am not at all desirous of leaving my car in such surroundings, but there is no other place to go.

If the garageman would make a few necessary improvements in his methods of doing business I am sure it would result to his

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It was more to protect my tires than anything else that I left the garage. I do not think sufficient care is given to those details which are indicative of good business.

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If the garageman would make a few necessary improvements in his methods of doing business I am sure it would result to his

great advantage. By the story I saw in Motor World it seems that there are some garagemen who are cleaning up their places of business, and it would be a great thing for them all if more would do so.

Trusting this may prove of some slight interest to you, I am,

Yours truly,

your advantage. By the story I saw in Motor World it seems that there are some garagemen who are cleaning up their places of business, and it would be a great thing for them all if more would do so.

Trusting this may prove of some slight interest to you I am

Yours truly,
[Signature]

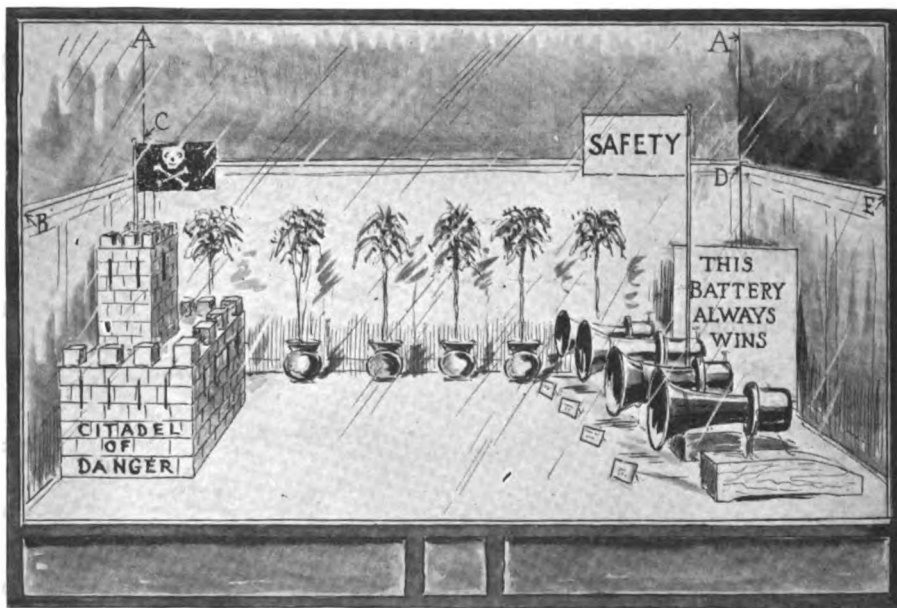
Appeal to the Desire of the Car Owner to Be on the Safe Side

Put This Set-up in Your Window—And Send Motor World a Picture

FOR the Citadel of Danger take a box of suitable size and cover it with white or gray crepe paper. Even the right kind of wall paper pasted or tacked on inside out will do. With a crayon chalk in the stones. Smaller boxes or cardboard squares may be used to make the battlements at the top of the lower box. The tower may be made in a similar manner. Put the name, Citadel of Danger, on with the crayon. The flag may be made of cardboard, tin or any other suitable material and the black background may be made with the crayon.

Set the horns on wooden blocks of the form shown, made to look as military as possible. Blocks other than wood may be used if available. Make the Safety flag the same as the Skull and Crossbones flag. Put a large card—This Battery Always Wins—back of horns. Set a row of ferns or palms along the back, or this may be filled in with a dark gray cloth or paper.

Lay a card in front of each horn with the name and price. Tip the cards up slightly from the back with a small block. If the horns are the same style



and price but one card—at the front—is needed, or even if they are all different one card may be made to do.

If the window has no side or back wall one may be made by running vertical wires from the floor to the ceiling, downward from A, and then running other

wires from B to C to D to E and filling in with crepe paper or a suitable cheese-cloth.

The size of the window determines the details of the set-up and the more work and attention given will greatly affect the result.

Dealers Favor January for Annual Local Show

Early Part of Year the Choice of Majority from All Sections—Growing Sentiment in Favor of All Manufacturers Making Their Announcements at Once, Preferably in January—Polls Still Open

THAT the question when to hold the local show, if not uppermost, is at least near the top of the thoughts of dealers all over the country, is revealed by the number of responses which have come in answer to Motor World's question. Motor World asked the dealers of the country to give their opinion regarding the best month to hold the show in their particular locality. To date, sixty-four dealers have voted for their choice and the opinions of many of them are given on the succeeding pages.

Question Involves LOCAL Show

It must be remembered that the question involves only the holding of the LOCAL show—the show in the city where the dealer does business. THE QUESTION DOES NOT CONCERN THE GREAT NATIONAL EVENTS WHICH ARE HELD IN NEW YORK AND CHICAGO AND WHICH ARE ANNUAL FIXTURES.

That so many dealers should vote for a January show is, perhaps, not surprising. They are following precedent in a great many cases. Their local show always has been held in that month and they are not willing to make a change.

THE VOTE TO DATE	
JANUARY	26
FEBRUARY	14
MARCH	11
SEPTEMBER	6
OCTOBER	5
DECEMBER	2
NOVEMBER	1
JAN.-FEB.	1
FEB.-MAR.	1
TOTAL	67

In a great many cases, as is revealed by the letters herewith, experience has demonstrated that January is the best month. And in other cases, dealers who have always patronized the January show are open and frank in their desire for a show during some other month earlier or later.

Locality May Determine Choice

As was pointed out in Motor World last week, the proper time for the local show depends to a great extent on the

THE DEALERS WHO VOTED

Dealer and Company	City
JANUARY	
Jesse A. Smith, S. A. Smith A. Co.	Milwaukee
Thomas C. McMillan, George W. Brown, Inc.	Milwaukee
H. W. Bonnell, Mitchell Auto Co.	Milwaukee
F. W. Bowman, Bowman & Libby	Minneapolis
W. E. Wheeler, Northwest A. Co.	Minneapolis
H. M. Luzius, B. A. Dealers Assn.	Baltimore
W. F. Kneip, Franklin M. C. Co.	Baltimore
Frank N. Olmstead, Auto Sales Co.	Baltimore
R. J. W. Hamill, Packard M. C. Co.	Baltimore
E. R. Myers, Motor Car Co.	Baltimore
H. M. Hartman, Zell M. C. Co.	Baltimore
C. D. Hakes, Albany Garage Co.	Albany
W. R. Shaw	Syracuse
J. D. Hawley, The White Co.	Philadelphia
E. C. Johnson, E. C. Johnson Co.	Philadelphia
J. S. Hurley, Jeffery Sales Co.	Philadelphia
Louis C. Block, Ford Motor Co.	Philadelphia
John R. McLaughlin, Central A. V. Co.	Columbus, O.
Thomas E. Curtin, Curtin-Williams Co.	Columbus, O.
L. H. Sackett, Sackett M. C. Co.	Columbus, O.
J. W. Richley, J. W. Richley A. Co.	York, Pa.
W. J. Gordon, Gordon A. S. Co.	Detroit
Thomas J. Doyle	Detroit
R. P. Anderson, York Auto Exch.	York, Pa.
T. S. Pfeiffer	York, Pa.
J. I. Case T. M. Co.	Milwaukee

JANUARY-FEBRUARY

G. M. Wetmore, Welmore-Quinn Co. . . . Detroit

FEBRUARY

B. M. Ellis, Standard M. C. Co. . . . Columbus, O.
 W. W. Munzer, R. W. Munzer Sons Co., Minneapolis
 H. E. Pence, Pence Auto. Co. . . . Minneapolis
 J. Clyde Myton Harrisburg, Pa.
 P. Driscoll, Ford Sales Co. . . . Harrisburg, Pa.
 S. W. Kesler, Packard M. C. Co., Brooklyn, N. Y.
 W. A. Sellon, Chevrolet Motor Co., Brooklyn, N. Y.
 C. S. Henshaw, Henshaw Motor Co. . . Boston
 R. P. Taber Hartford, Conn.
 T. A. Young, Bull & Young Syracuse
 S. Silverman, Jr., Syracuse M. C. Co., Syracuse
 G. H. Norris, Genesee M. C. Co. . . . Syracuse
 Prince Wells, Prince Wells Co. . . . Louisville
 J. H. Limbird, Overland-Louisville Co., Louisville

FEBRUARY-MARCH

J. W. Lee, Jr., Overland-Syracuse Co., Syracuse

MARCH

M. J. Monson, Buick Motor Co. . . . Milwaukee
 J. R. Histed, Twin City M. C. Co., Minneapolis
 George G. McFarland, Harrisburg Auto Co., Harrisburg
 E. C. Ensminger, Ensminger Gar. . . . Harrisburg
 J. H. MacAlman, J. H. MacAlman Co. . . Boston
 J. S. Hathaway, The White Co. . . . Boston
 J. H. Johnson, Buick Boston Co. . . . Boston
 H. F. Fosdick, Wentworth-Fosdick Co. . . Boston
 J. W. Maguire, J. W. Maguire Co. . . . Boston
 D. B. Roberts, Hartford Buick Co., Hartford
 Clifford Alderson, Standard Auto Co., Louisville

SEPTEMBER

G. S. Loomis, Southern Motor Co. . . . Louisville
 Hubert Levy, Kentucky Auto Co. . . . Louisville
 George D. Knox Hartford, Conn.
 R. A. Boardman, Hartford M. C. Co., Hartford, Conn.
 L. E. Lambert, Lambert Auto Co. . . . Baltimore
 Walter E. Lambert, Lambert A. Co. . . . Baltimore

OCTOBER

S. R. Blocksom, S. R. B. Motor Co., Philadelphia
 R. R. Weaver Columbus, O.
 F. N. Sealand, Winton Co. Detroit
 A. F. Chase, A. F. Chase Sons Co., Minneapolis
 A. C. Rose, Brown-Thompson Co., Hartford, Conn.

NOVEMBER

W. R. Rose, Adirondak M. C. Co. . . . Albany

DECEMBER

Wm. M. Turnbull, Colonial Auto Co., Hartford, Conn.
 N. W. Bywater, Bywater-Ortner M. Co., Louisville

Vote Here—Tear Out—Mail

Motor World,1915
 239 West 39th St., New York
 I am in favor of holding the annual show in the month checked.

☐
☐
☐
☐

SEPTEMBER

OCTOBER

NOVEMBER

DECEMBER

☐
☐
☐
☐

JANUARY

FEBRUARY

MARCH

APRIL

Signed

Position

Company

Address

You

have not voted yet. Motor World wants your vote on this question. With your vote send a letter setting forth your reasons for choosing the particular month you favor.

Remember

This is a vote for the month in which to hold your LOCAL SHOW—not the National events in New York and Chicago.

locality. The North and West probably will not hold their shows at the same time as the South. Weather conditions are widely different in these sections and

weather conditions have a powerful influence on car sales.

Not the least significant feature of the opinions which are published herewith is the growing sentiment in favor of manufacturers making annual announcements in January instead of during the sum-

mer months, as is now the practice. It is pointed out that if all announcements were made at the same time, preferably at the time of the great annual shows in New York and Chicago, sales conditions would be made much more stable. Cars would be new in truth when they made

their appearance. There would be no holding off for a few months to see whether a manufacturer intended bringing out a new model or reducing prices just a short while after the National show and almost in the heart of the selling season.

Reasons Why Some Dealers Made Their Choice

THESE CHOSE JANUARY

Thomas C. McMillan, Milwaukee (Overland), says:

"I am strongly in favor of holding the main show in January, and at about the time adopted by our association. A big show at this time acts as a 'lid lifter'; arouses interest in the prospective buyer; educates him intimately to the latest wrinkles, and gets him in the right frame of mind for closing up. So far as Milwaukee and Wisconsin is concerned, January is the best month, but I figure it would not be the best month all over the country. It all depends upon the section and seasons in that section. The September show at the State Fair is a fine thing for the state agent and wholesalers, but the retailer will, I think, find January the most productive."

Herbert W. Bonnell, Milwaukee (Mitchell), says:

"I cast my vote for January because this period is the worst of the entire year for motor car dealers. The January show kindles an interest that has lagged since November and December and would hardly be revived until March or April if there were no show to bridge the gap. We always exhibit at the State Fair show and take part in the progressive show, but I know that our record shows everything in favor of January as the best show proposition. This is where we get the real prospects."

Thomas E. Curtin, Columbus, O. (Cadillac), says:

"I believe shows and new models should come in January or December. The idea of starting a new season in the midst of the selling season is very foolish. It is entirely wrong to bring out new models when we are selling cars faster than at any other time. The logical time for holding shows is when new models appear, and they should be put out at the beginning of the year. I believe manufacturers are seeing the wisdom of this course more and more and as a result the trade will be better organized."

H. H. Luzius, general manager of the Baltimore Auto Dealers Association and secretary of the Automobile Club of Maryland, says:

"January is the logical month for our show, because business this year and last year proved the success of our venture in holding the show as soon after the New York and Philadelphia shows as we could get all the models here. Before that we held the show in February, but the last two years have proven to us by results why January is best."

Herbert M. Hartman, Baltimore (Chalmers, Peerless and Rauch & Lang), says:

"In 1913 the show was held in February, the following year and this year it was held the latter part of January and proved a much better success. If it were possible to get more models out in the fall I believe it would be better to hold the show then. This might aid in the sale of more closed cars, but it is useless to think of holding the show at a time when one can't get the necessary show material. Under present conditions, therefore, January is the best month for Baltimore."

THESE CHOSE FEBRUARY

J. H. Limbird, Louisville, Ky. (Overland), says:

"More people are considering purchasing new machines in February than any other season of the year. However, February is one of the dealer's dulllest months and he has more time to devote to an exhibition. February is the best month because the dealer is just starting the new year, having definitely determined what his old prospects intend doing, he is anxious for new ones, and the best way to obtain them is through the annual show."

C. S. Henshaw, Boston (Dodge), says:

"My choice for a show would be February. The two dull months of the year are March and December. In March the people are holding back and in December the holidays scare them off. So a fall show would not be worth while because it would be too near New York and Chicago. A summer show would be of no value because people are touring and not interested in buying then. But February in Boston would give a longer selling season. Follow the show with the open house movement on Washington's birthday now so well observed and the ideal season would be reached."

H. E. Pence, Minneapolis (Buick), says:

"A show is all right just before the selling season starts, as in February. That is, the first of February. The show is then on everybody's mind and the buyer does not get cooled off until it is time to run a car. Models should be brought out in the winter. The automobile show of February, 1916, should show the 1917 models. With a show in the fall the thing dies dead and the people have forgotten all about it by spring. They have lost all their enthusiasm and the information that is of merit to them. It is like letting the steam down in the boiler and then beginning all over again. Get a ball rolling and a little push keeps it going."

W. W. Munzer, Minneapolis (Hupmobile), says:

"I do not know when a show could be better in this part of the country any time than in February. In the fall there would be too much time between the time they see the cars at the show and when they buy. In February the dealers get the early business for spring use. The people would buy in February and we would deliver in March. Without the show in February they would not buy until good weather. This promotes early spring business. The farmer is too busy to attend a spring show or an early fall show for the same reason."

Prince Wells, Louisville, Ky. (Jeffery), president of the Louisville Automobile Dealers Association, says:

"If a show is held in January it is overshadowed by the national exhibitions, but if the exhibition is staged in February the dealer has a better chance to sell a prospect, for the latter has no further excuse for waiting to see what the national shows will offer. February is better than December, for everybody is thinking of Christmas at that time. In Louisville, especially, February is the best month because it is hard to get people interested in sufficient numbers in a show before then."

Russell P. Taber, Hartford, Conn. (Reo), says:

"I think February would be the best time to hold the show because it is just in advance of the opening of the spring season. If all the

manufacturers would get together and announce their new models in January we would all be better off. For the New York and Chicago shows January is the time; let the local show come in February. The early show, if you have new models, is all right. The selling season begins as soon as you get your new models and keeps right up. We sold just as many cars in January and February this year as we did in April and May. To a certain extent we would all be benefitted by simultaneous announcements of the car makers; we would all be on an equal footing, so to speak. Times have changed a lot. More cars are now bought in the fall and winter. A large percentage of customers would wait for the new models anyway. A dealer develops a certain following. Early models, while all right for a dealer representing them, place a rival dealer at a disadvantage, because his new cars arrive some time later. However, it is my experience that those dealers who have the advantage at the beginning of the season do not possess it at the close of the season when the dealer who received his cars late has the advantage. The early arrival of new models is apt to make the trade a little leery for a while."

THESE FEBRUARY-MARCH

E. C. Ensminger, Harrisburg, Pa. (Hupmobile), says:

"It seems to me that either late in February or during the month of March is the best time for our local show. There is more enthusiasm among the buyers after the New York and Philadelphia shows and the buying public seem to know what they want. Of course, weather conditions also count, as most people do not use their cars in winter and do not want to purchase new cars and put them to hard winter usage before the summer touring season. If the big shows would change their dates, possibly it would be best for us to change, but I'm for the beginning of the buying season, which starts in March and April."

J. Clyde Myton, secretary of the Harrisburg Automobile Dealers Association, says:

"The best time for the local show is from the middle of February to the middle of March, regardless of the date of the New York show or time of year when the yearly models are announced. What new models are purchased in this territory are bought in the late summer months. Other buyers, who are in the vast majority, prefer to wait until after the New York show, and then on account of inclement weather in this climate cannot be reached until early spring. The general expression of the buyers is, 'We will wait until the Harrisburg show,' which simply means they will wait until weather comes that they can use their cars. Manufacturers have helped this feeling along by adding additional improvements to the models from time to time after the first announcement has been made and the first few cars have been delivered."

P. Driscoll, Harrisburg, Pa. (Ford), says:

"I prefer the local show between February 15 and the first week of March. The weather opens about that time in this territory and the purchaser has about settled in his mind what car he wants. Some may prefer March but I feel that the show should be a trifle earlier."

THESE CHOSE MARCH

Clifford Alderson, Louisville, Ky. (Cole and Reo), says:

"March marks the opening of the season and is the best time of the year to start enthusiasm. Winter months are always dull, anyway, for the dealer in motor vehicles. In spring and in the early summer months the dealers have no trouble in disposing of their allotments, and at that time it is not necessary to stimulate business. I'm not in favor of the fall show because the interest created would die out before the majority of prospects would be ready to purchase cars, which in most cases is in the spring."

J. H. Johnson, Boston (Buick), says:

"We have always found March a very good show month, and it has brought us many orders. Not having tried any other month, to say whether or not it would be better would be a mere guess. However, as the makers are no longer bringing out specific show models, but stick to the stock styles, the fact that New York and Chicago has early shows does not bother Boston. They would move the Chicago show along to the third week in January, giving a week's intermission between it and New York, and then possibly try February as a show month here if we could always be sure of the weather. Or we could try it irrespective of Chicago or New York, for ours is not a sanctioned show anyway. But it would be trying something against what we know is a proven winner. So taking all things into consideration, March is my first choice with February second."

John H. MacAlman, president of Boston Automobile Dealers Association (Stearns), says:

"We find March the best month for the show because of varying conditions here. It is a dull month ordinarily and a motor show awakens interest in automobiles. The people have been housed up all winter, many of them indoors, for we get a lot of people from all over the six states. They seem to come out like a plant blossoming and they want to see the cars and have a few rides. If the makers would agree to keep their announcements until the New York show it would make the March show in Boston all the better for everyone. We have been through it and the fact that the show has been a big success every year, together with the big business done, tells the story."

Harry Fosdick, Boston (Dort), says:

"If the Boston show were simply an exhibition for Boston dealers alone to sell to people in that city, then the fall months, like October, would be good after the announcements were made. But the dealers have to look to a wider field. This is a New England show. And you cannot get an order for a car from a man in Maine when he knows he will have to store it in his barn some months. He wants to wait. He can use his money as well as the dealer or the manufacturer. So he is in no hurry. In March people come to Boston to buy a lot of other things for the farm, the hotels, camps, etc., and they like to look over the automobiles. It shortens the selling season somewhat, and perhaps a few weeks earlier might be better."

J. S. Hathaway, Boston (White), says:

"If New England had an early spring like the South then the logical month would be January or perhaps February. But you must consider what a New England storm is liable to do in February: Choke up the roads, hold up traffic on the railroads, and the interest goes to smash. Then you have to work all the harder with your prospects. But a few mild days in March thaws the people out and they are ready to be convinced."

J. W. Maguire, Boston (Pierce-Arrow), says:

"March by all means is the best month here. The factories are running well and production is coming through readily. The people who want all-the-year cars, or closed models, have ordered

them and are using them. Then they turn to the open machines and the dealer has a chance to finish up his season by selling the other cars. Certainly for the high-priced cars a show any other month would not be worth anything. We know from experience in the selling for many years."

George G. McFarland, Harrisburg, Pa., president of the Harrisburg Automobile Dealers Company Association (Reo and National), says:

"I have always said that the local show should be held during the latter part of March and

WANTS NO SHOW AT ALL

Editor Motor World:

The writer is strongly opposed to any local automobile show in New Haven. This city is so situated that the majority of persons interested in holding an automobile show attend the New York show; consequently I feel that the necessary expense of a show here is pretty much wasted.

It seems to me such a situation must exist in other cities within, say, a radius of 100 miles of New York or Chicago. As to whether a fall show or a spring show is the best, it is hard to tell. In the fall, when the new models are just out, he have our hands full trying to get around and see the prospects we have without being bothered with any automobile show, and in the spring the models you are handling are pretty near to the end of their rope and it hardly seems worth while having a show and spending your money showing something which is nearly finished.

If the manufacturers would adopt the same policy of making the season's announcement, say, in December, and showing the new models at the shows in New York and Chicago, then a local show in the spring might be of some value, but as conditions exist today we can't see the use.

Another big advantage of a local show we have noticed is that it gives prospects a fine chance to stall anywhere from a month to two months before the show takes place, making it necessary for our selling force to spend considerable time keeping in touch with them until the show is over.

Another thing, I don't believe that automobile shows today arouse any particular desire among people who don't own automobiles to become automobilists, and I think a show is simply a prospect trading proposition.

In other words, practically everybody who goes to the show has their mind made up before they go in that they are going to buy a car. We might have put in considerable time trying to sell a certain party a car. He goes into the show and sees somebody else's car which he likes a little better and our loss is somebody else's gain, but then, of course, the situation is reversed and we might get some of the other fellow's prospects.

There have been several local shows in New Haven since we have been in business and we have kept strictly out of it, and as far as we could so we did as much business that week as anybody at the show.

THE WHITE MOTORS CO.,

W. A. Rutz,

General Manager.

there should be no New York show unless it is restricted to dealers only. The weather plays a great part with our sales and the roads are not fit in the winter months. Most of our sales now and our best sales are made in the open country where dirt roads must be used. In March the farmer is not busy, is thinking of buying his car for the spring and summer, has the money and is ready to pay for it just about March, which is an ideal show time for this territory at least."

T. S. Pfeiffer, York, Pa. (Franklin), says:

"In case of a large show like New York,

Philadelphia, etc., the month of January is best, as the time suits both the dealer and manufacturer. Both have more time than later in the season. The manufacturer is especially interested to know what other manufacturers are doing and to see what changes have been made on cars. In case of a smaller show, like York, Harrisburg, etc., the month of March is best suited, for the reason that the prospective purchaser is more in the spirit to buy at this time than any other time."

THESE CHOSE OCTOBER

Donald Anthony, Baltimore (Locomobile), says:

"During June, July and August most of the new models reach the market now and why should not the show be held in the fall. October, therefore, is the best month and I think will bring good results. Everybody is back from their vacation then, whereas in January many people are away. I don't think any mistake would be made in holding the show in October."

A. F. Chase, Minneapolis (Argo), says:

"The automobile show ought to be in the fall. Models are due in October. Then the people would be buying in the winter. As it is now here with the show in the winter, or February, the people wait until after the show. Fall is better than winter, therefore. If the public is positive that the announcements of models are out and the show is over in October, why there would be a chance to do some business in the winter."

S. R. Blocksom, Philadelphia (Stutz), says:

"Early fall would seem the most appropriate season for the show. The usual time for holding the exhibition, January, is too uncertain—everything liable to be tied up by snow and ice. Besides, people are not buying cars in January as a rule. The spring season is but a few months off and the closed car season half gone. Then, again, the announcement of new models comes a short time after the closing of the show. Consequently what has been shown at the show is not, in a strict interpretation of the term, exactly new. The beginning of a season, rather than between seasons, would seem the more advantageous."

THESE CHOSE DECEMBER

Norbert Bywater, Louisville, Ky. (Studebaker), says:

"According to my way of thinking, the automobile show is a necessary evil and I like to get it out of my system as soon as possible. A show requires a lot of time and, as December is the dearest time of the year, that is why I think it better than any other month for an exhibition. The longer a show is put off the longer a dealer's sales are put off. An automobile show unquestionably creates additional prospects. However, I am of the opinion that it helps general business more than it does the individual dealer."

William M. Turnbull, Hartford, Conn. (Studebaker), says:

"December is the best time to hold an automobile show, simply to get it all over with. Waiting for the annual automobile show after they have seen all models is a common habit with people. If the show is held in March there are three dead months simply because this late date holds back sales. People will wait for the show in the winter and because they wait for it there is a lull in trade for at least two months before it is held. A show in January or February holds things back. If the factories started production in September, marketing the cars in December, there would be no factories full of cars all winter. January first they would start to deliver. People would place their orders and there would be something for all the next summer. If I were at the head of a factory I would arrange production in this manner. In this way there would be no warehouses full of cars when they ought to be selling."

Valves Outside V in New National Twelve

Unusual Arrangement Promotes Accessibility
—Side by Side Connecting Rods—Every
Moving Part Lubricated from Gear Pump

LIKE other multi-cylinder motors of the V type, the National "Highway" twelve, made by the National Motor Vehicle Co., Indianapolis, has a great high-gear ability and combines smoothness with rapid acceleration in a marked degree.

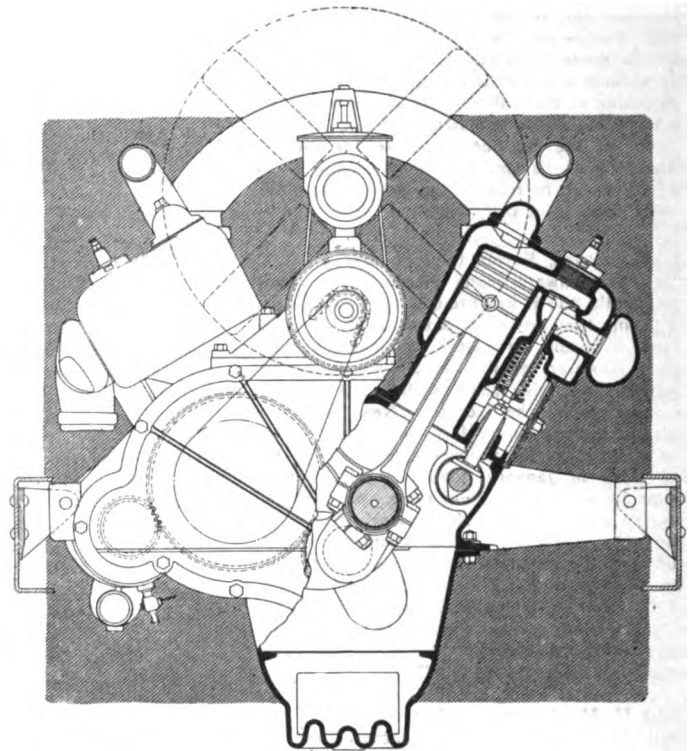
The motor is not so very large from a volumetric viewpoint, having a piston displacement of 338.5 cubic inches. The body, a standard touring type, seats four, with folding seats for two more.

The motor embodies all the best features of modern high-speed design and the use of outside valves was suggested by the much better accessibility given by this position and by the convenience of having the electrical gear and other motor accessories in the V, where their individual accessibility is at a maximum.

The cylinders are cast in blocks of six and are of conventional L-head construction with small combustion chambers. Of course, two camshafts are necessary, but there is no need for rockers or other devices to synchronize the valve action, as the valve operation for both sets of cylinders is unaffected by the other set. At the front end of the engine helically cut timing gears drive the camshafts just like the layout for a T-head motor with vertical cylinders, and for the drive to the Splitdorf magneto a silent chain runs from the right camshaft to the fan pulley spindle.

This magneto is a special Splitdorf

The outside valves are a distinguishing feature of the National twelve; the cylinders being inclined at 60 degrees permits the minimum width. Mushroom type tappets are used

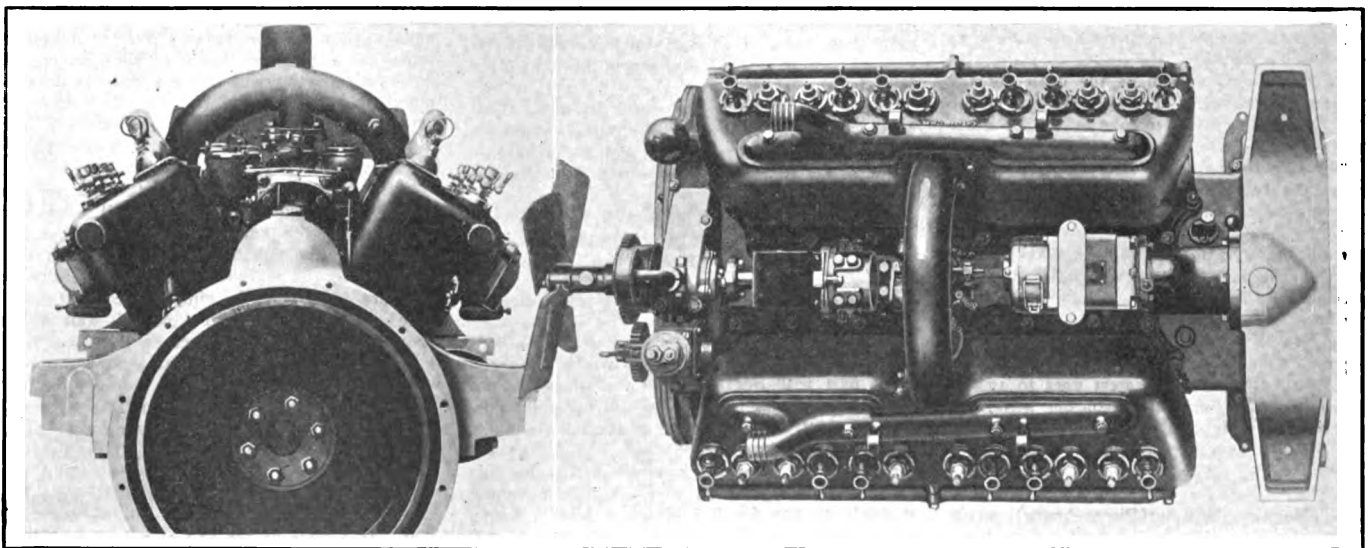


machine and the fan is connected rigidly to its drive shaft so that the flywheel action of the fan shall steady the magneto. At the rear end of the V is the Westinghouse starting motor, and the generator is located alongside the crankcase, being the only attachment within the V. For the connecting rods the side by side design has been chosen, the cylinder blocks being staggered 1 inch to permit of this.

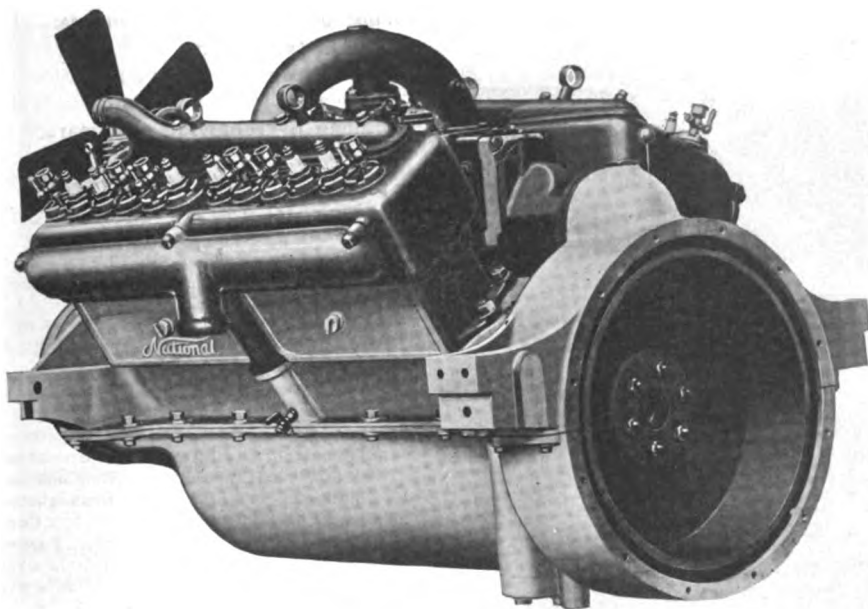
The lubrication system is unusually complete, as there is practically no moving part that does not receive a direct supply from the pump. The latter is a gear type and is located in the oil base,

having a large screen on the suction side. There is also a gauze strainer in the form of a tray covering the whole top of the oil pan, but there are no dip troughs as the crankshaft is fully drilled and the oil from the main bearings finds its way to the connecting rod lower ends.

Separate leads go to the timing gears and to each of the camshaft bearings, while the piston pins are cared for by an inversion of the usual method of fully forced lubrication systems. As a rule the connecting rod serves to carry the oil to the wrist pins and then to the cylinders, but in the National twelve the oil is fed to each cylinder at a point



The accessibility of the National twelve motor is noteworthy; only the carburetor, the Splitdorf magneto and the Westinghouse unit are placed between the blocks



The unusual compactness of the motor is another feature; the extreme accessibility of the valves is well shown in this illustration

about $1\frac{1}{2}$ inch from the bottom and reaches the wrist pins through tiny holes drilled in the aluminum alloy pistons. The latter have a V groove cut near the bottom which is used to lift oil into the cylinders, as the absence of splash troughs in the body of the crankcase cuts down the amount of spray.

The oil pressure is not very high, as the relief valve blows off at 25 pounds per square inch. When the engine is idling, the pressure is about 10 pounds and it rises gradually with the speed till the limit is reached.

There is only one water pump, but this is duplex internally, as the rotating member carries two sets of vanes. Of these, one set feeds directly upward into the block of cylinders on the right side, while the other half of the pump delivers through a passage cast in the aluminum crankcase to the left block. This cuts down the piping very greatly and makes for efficiency as well as for simplicity.

The weight of the pistons is 8 ounces without rings. The valves are $1\frac{5}{16}$ in diameter and the lift is $\frac{3}{8}$, giving a quite large opening, while the mushroom tappet provides a quick lift and descent, giving a slightly better valve diagram than the roller type.

NATIONAL HIGHWAY TWELVE

Price, touring	\$1,990
Color	Optional
Make of motor	National
Number of cylinders	Twelve
Shape	L-head
How cast	Two blocks
Bore	$2\frac{3}{4}$
Stroke	$4\frac{3}{4}$
S. A. E. rating	36
Magneto	Splitdorf
Starting-lighting	Westinghouse
Clutch	Cone
Gearset	3-speed
Wheelbase	128
Tires	$36 \times 4\frac{1}{2}$
Wheels	Wood
Steering	Left
Control	Center
Make of axles	National
Type rear axle	Full floating
Options	Color

Aft the motor there is little in the chassis, if anything, that differs from the

Highway six. The clutch is an aluminum cone with leather face and the unit gearset provides three forward speeds, all shafts therein running on annular bearings. The propeller shaft is tubular and bears two universals, and the rear axle is a conventional full floating pattern.

On both the six and the twelve a flat cantilever rear suspension is employed, and the center bracket has the swivel pin located beneath the spring, instead of above it, as is more usual. The springs are $51 \times 2\frac{1}{2}$ inches wide with eight leaves each. The front springs have no especial peculiarity, being 38 inches long and 2 inches wide, but very special precautions have been taken in laying out the steering and the use of large ball thrust bearings for the front axle swivels makes the steering control unusually easy.

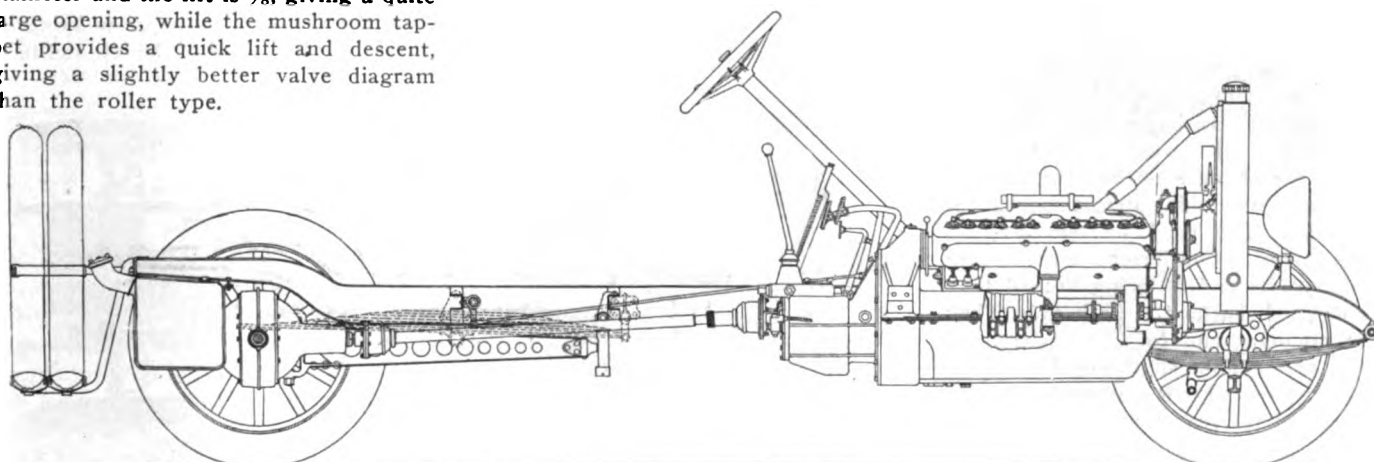
Care has been taken to provide plenty of stopping power to offset the high speed capability, as the brakes are 15×2 inches. Despite the 128-inch wheelbase, the narrow front end of the frame and the design of the steering allows the car to turn in a circle of 35 feet diameter.

Throughout the rear axle taper roller bearings are used, and the type is full floating, very strong steels being used so as to cut the weight as much as possible. This statement applies to the whole chassis, which has few redundant parts and very little dead weight in any portion. Drive is by spiral bevel and the high gear ratio 4.4 to 1.

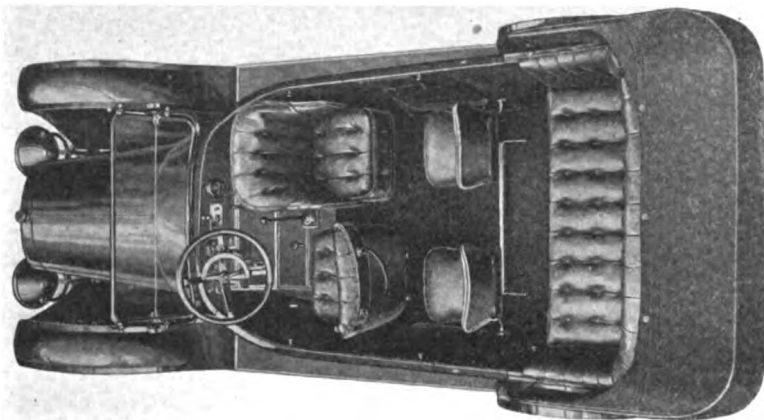
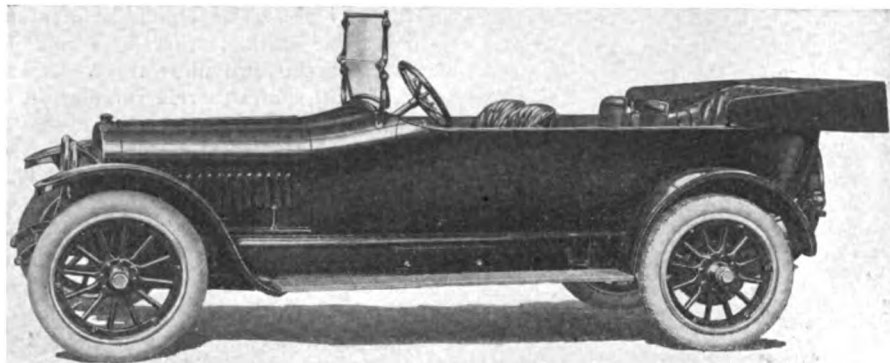
In general, the body is like that which drew so much comment at the national shows this year, having the divided front seats and the smooth lines which the National company was among the first to introduce. In equipment the car is well provided, having speedometer, one man top and all the usual accessories.

Are You Guilty?

Page 5



In general, the twelve-cylinder chassis is little different from that used in the Highway six; the rear is hung on exceptionally flat cantilever springs



The McFarlan touring body is lower than before and redesigning of the front end has improved appearance; the windshield is new

Though the standard touring body is a double cowl model, another model with individual Pullman chairs also is produced

being 58 inches and 3 inches. There are fourteen leaves.

With the new spring suspension there has been a better all around balance obtained by removing the gearset from

McFARLAN AT A GLANCE

Price—		
Touring, 7-pass....	\$2,990	\$2,680
Make of motor.....	Teetor	Teetor
Number of cylinders....	Six	Six
Shape	T-head	T-head
How cast.....	Block	Block
Bore	4½	4
Stroke	6	6
S. A. E. rating.....	48.5	38.4
Ignition	Westinghouse	Westinghouse
Carburetor	Stromberg	Stromberg
Starting	Westinghouse	Westinghouse
Lighting	Westinghouse	Westinghouse
Clutch	Cone	Cone
Gearset	3-speed	3-speed
Wheelbase	132	132
Tires	36 x 4½	36 x 4½
Wheels	Wood	Wood
Steering	Left	Left
Control	Center	Center
Type rear axle.....	Floating	Floating
Options	Wire wheels	Wire wheels
Equipment	Tire pump	Tire pump
	One-man top	One-man top

McFarlan Raises Price of Both Models

List Increased \$90—New Form of Rear Suspension Adopted—Accessibility Bettered

THE policy of the McFarlan Motor Car Co., Connersville, Ind., of marketing one chassis with either a large or smaller six-cylinder motor installed is continued, but because of the nature of alterations that have been made a price increase has been made necessary. The large McFarlan, which is equipped with a 4½ x 6 motor, lists at \$2,990 instead of \$2,900, and the smaller model, the same in every respect with the exception of the motor size, which is 4 x 6, lists at \$2,680, an increase of \$90.

Probably of greatest importance among the changes is the new form of rear suspension which almost approaches in design that used by the English Rolls-Royce. Cantilever springs are used, but instead of being arched they are flat and shackled at both ends. They take no drive and torque stresses and hence the double shackling is permissible. In the Rolls-Royce the flat spring is used but the rear portion is under the axle and operates between rollers, while in the McFarlan the spring is fastened

on top of the axle housing and uses a shackle for play instead of the rollers.

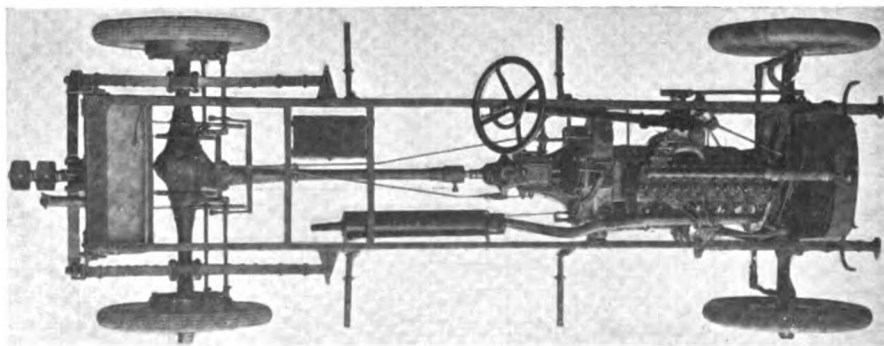
This form of suspension allows the springs to be flat under normal load and an exceptionally easy riding car is obtained because of the comparatively slow return after the wheels have encountered an obstruction. Furtherance of the easy riding is also obtained by making the springs long and wide, the dimensions

the rear axle and placing it amidships upon a sub-frame and at the same time bringing the motor down to rest upon this sub-frame instead of in the regular frame channels. A general stiffening of the whole assembly has been brought about by this rearrangement of units.

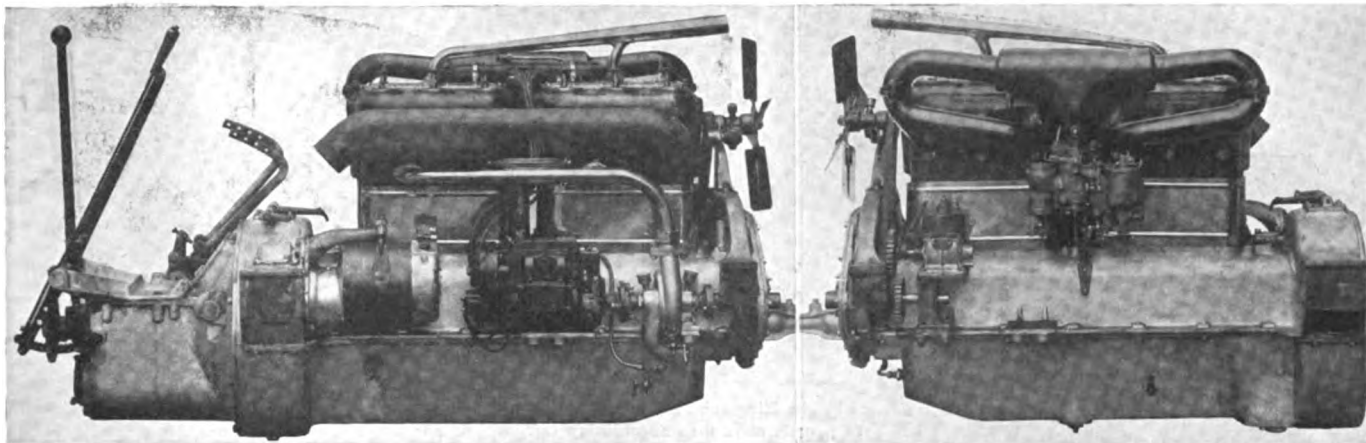
The motor still is a T-head design with block cast cylinders, but its speed capabilities have been increased to some degree because of the fitting of aluminum-alloy pistons instead of cast iron, and lighter rods, although the latter have the same section.

A plunger pump, driven from the exhaust camshaft, forces oil directly to the four main bearings. The pistons and cylinders are lubricated by constant-level splash as before. The carburetor still is a Stromberg and the feed, as before, by a short manifold.

While the cranking, lighting and ignition system remains of Westinghouse make, there have been changes in location, the cranking motor now being on the right side instead of the left and turn-



The principal alteration in the chassis is the adoption of a new rear suspension



The Herschell-Spillman Premier motor retains the ramshorn water jacketed intake manifold; all the units are so placed that accessibility is at the maximum

ing the engine over by means of a toothed flywheel instead of through a train of gears connecting with the crankshaft at the forward end.

The combination generator and ignition apparatus is on the left, as before, but it is lower, so as to offer less restriction in making valve tappet adjustments and stands slightly farther away from the motor. The latter change has been necessary because the water pump formerly an integral part of the crankcase now is a separate unit driven directly from the timing gears. Pump capacity is 10 per cent greater than in 1915.

In the cone clutch there has been but one alteration, a change from a pressed-steel cone to one of cast-aluminum. This clutch is a 14-inch leather-faced type, 4 inches face, with twelve flat springs under the leather.

The gearset is a Brown-Lipe using ball bearings instead of rollers and a squared shaft of $1\frac{1}{4}$ inch diameter, making it heavier than before. It uses a four-point mounting and drives an enclosed propeller shaft, the tube having a wide-yoked end as before. This tube, braced by rods running to the axle housing, takes both drive and torque.

There is only one other mechanical change of importance and that is the front axle knuckles are casted slightly.

The wheelbase still is 132 inches, but the tires fitted now are Silvertown cords $36 \times 4\frac{1}{2}$.

The standard body is a seven-passenger design showing detail improvement over the previous design, this being especially true of the front portion. While the body still is a double-cowl design, it is hung lower than before and has a better rounding out of the cowl and hood. This has been helped by widening the cowl, and also by raising it the leg room in front has been increased. The rounded front has called for a new design of radiator and windshield, both of which harmonize better with the rest of the design. The upholstery has a wider piping but is of the same material as before.

Premier Is Continued Without Change

Complete Line Embraces Six Different Models—One Chassis Mounts Them All

PREMIER 6-50 MODEL

Price—

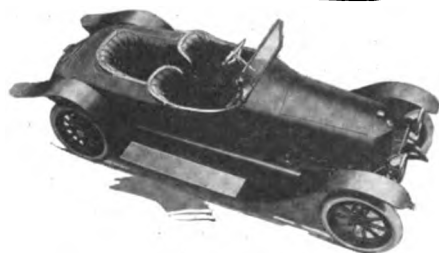
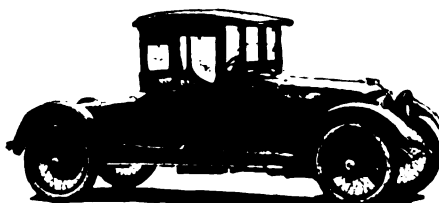
Touring, 7-passenger.....	\$1,985
Roadster, 2-passenger.....	1,985
Cloverleaf Roadster.....	2,385
Couplette	2,285
Convertible Roadster.....	2,235
Speedster	1,985

Make of motor, Herschell-Spillman	
Shape	T-head
How cast.....	Threes
Bore	4
Stroke	$5\frac{1}{2}$
S. A. E. rating.....	38.4
Ignition	Remy
Carbureter	Rayfield
Starting-lighting	Remy
Clutch	Disk
Gearset	3-speed
Wheelbase	132
Steering	Left
Control	Center
Make of rear axle.....	Timken

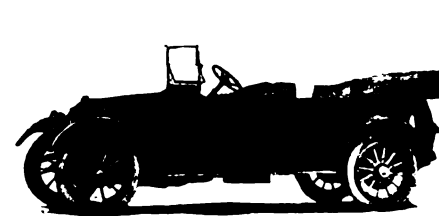
NOT a detail has been altered in the 1916 Premier which is coming through as a single chassis upon which a variety of standard body styles are mounted. The company is also offering a full line of closed types, such as berline, coupe, limousine, and funeral cars, military ambulances, etc. The chassis for the latter is exactly like the regular one only its wheelbase is 148 instead of 132 inches.

The 1916 Premier is styled the 6-50 instead of the 6-49, and in general it comprises a Herschell-Spillman, six-cylinder motor, $4 \times 5\frac{1}{2}$, with a Brown-Lipe disk clutch and three-speed gearset in unit, an open propeller shaft drive to a Timken axle fitted with helical-bevel gears.

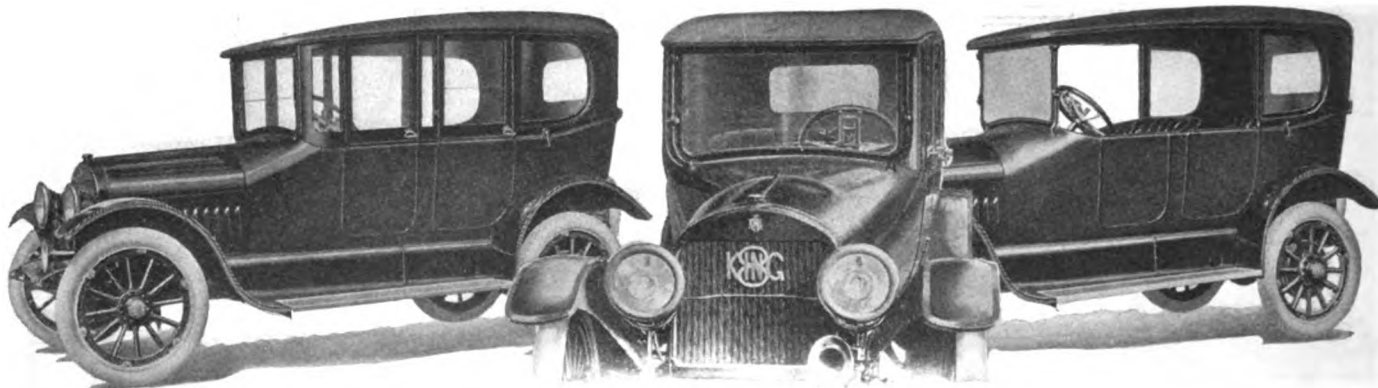
The motor is the same T-head design used last year. Cylinders are cast in threes and the blocks set close together. A striking departure from conventional practice is the use of an elliptic inlet manifold, the lower portion of the el-



Premier roadster with detachable top
Cloverleaf roadster seating three



Coupelette model listing at \$2,285
Premier standard touring model.



The Rex convertible top is now being supplied to dealers by the King company; it can be put on any model D car in about 1 hour and weighs about 75 pounds more than an ordinary top

lipse being the feeding part and the upper portion the fed. The carbureter is water-jacketed. This is on the left and the only other accessory on this side is a Kellogg single-cylinder tire pump.

On the right there is a Remy combination generator and ignition apparatus driven from an extension of the water pump shaft near the front end and at the rear is the Remy cranking motor. The exhaust pipe is of the type which has separate outlets for each cylinder block so that there will be a freer flow to the gases and hence less back pressure.

In the motor interior there is a three-bearing crankshaft, the rear bearing being $3\frac{3}{4}$ inches long, center $2\frac{1}{4}$ and front 3 inches.

The camshafts are of 30-40 carbon steel mounted on three bearings. The rods are of the same metal and are mounted on 2-inch crankpins.

Lubrication is by circulating splash in which oil is raised by a gear pump from a reservoir and forced through a pipe running longitudinally through the crankcase and then distributed to troughs under the rods. The oil reservoir capacity is 6 quarts.

The disk clutch has twenty plates, ten of steel and ten Raybestos faced. The plate diameter is $8\frac{1}{2}$ inches. The gear-set is a conventional three-speed type with a $1\frac{1}{8}$ -inch main shaft. The drive from this unit is by Spicer-joint shaft to a Timken axle.

again. The metal trough closes this crack and removes the danger while also assisting to keep out driving rain.

All around the top is a narrow leather flap which covers the junction and closes any crack, while the weight rests on felt pads which prevent injury to the paint. Inside the finish is in cloth or Bedford cord. To give ventilation the tonneau windows are divided and the top half can be lowered. In making tops of this sort it is easy to sacrifice completeness to ease of attachment, but the Rex has no makeshifts. When it is fitted the car becomes truly a Sedan and there is no part which is flimsy or rattlesome. Also the attachment is not a large undertaking, for in an ordinary way two men working leisurely could remove the folding top and replace it by the Rex in less than an hour.

King Now Supplying Dealers With the Rex Convertible Top

Can Be Put on Model D Car in
About 1 Hour—Weights 175
Pounds

ONE of the convertible bodies is the Rex Sedan top, made by the Rex Buggy Co., Connersville, Ind., which is now being supplied to the King Motor Co., Detroit. King dealers will be supplied at a special price and it is understood that the top is attachable to any model D touring car in about 1 hour. The weight is stated to be about 175 pounds, or about 100 pounds more than a folding top.

To accommodate this top the body is made to an ordinary open design and top irons are attached at the usual places, but instead of using the ordinary iron a socket is fixed securely to the main body frame, showing a threaded hole starting flush with the face of the panel when the body is completed. There are four of these sockets and the irons for carrying the ordinary folding top simply screw into the sockets.

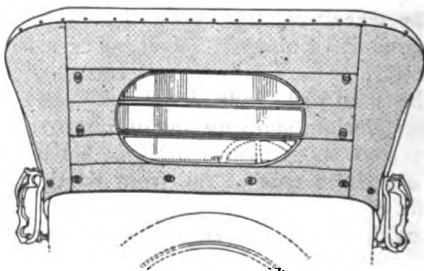
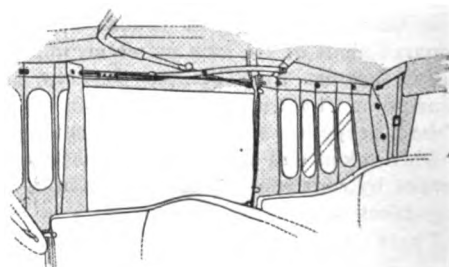
To fit the Rex top the ordinary irons are unscrewed and four others put in

their place; these providing four vertical studs on which the Rex top is set and held down by nuts. This gives a rigid attachment for the rear part, and the front end is secured to the upper extremities of the windshield irons.

The main frame of the Rex is hardwood, well strengthened at the joints and comprises the leather and Pantasote roof with the back piece and a post located just aft of the tonneau doors on each side. In this condition the body is just as much open as with an ordinary top and no side curtains.

The rearmost windows are held in frames which can easily be put in place and fixed by screws, this protecting the tonneau seat from side draughts. To attach the door windows a few screws are run vertically into sockets on the top edges of the doors and into the body side piece between the doors, the parts to which the windows hinge being also attached to the roof frame. Thin pressed metal troughs connect the bottom edge of each window piece with the top edge of each door. As the windows and doors swing on different hinges a gap opens between the two as the door is opened and there is risk of pinching a finger between the two when closing the door

JIFFY CURTAINS IMPROVED



A collapsible rod takes the place of the cable that has heretofore been used to hold up Jiffy-quick adjustable curtains. This permits still greater speed to be made in adjusting the curtains and obviates the possibility of binding at any point. Another improvement consists in making the celluloid rear lights in horizontal instead of vertical strips. With the new arrangement the rear curtain can be folded up without harming the celluloid

The New Broom Grows Old

Being the Story of the Young Man Who Started Well But Ended Badly

By Ray W. Sherman

PIERRE'S wasn't exactly owned by the dealers and garagemen of Callawassa, but they contributed considerable toward paying Pierre's rent. The Callawassa tradesmen were a social lot, and every noon found a bunch of them using Pierre's as a sort of club buffet. Their own club rooms boasted no such institution.

As usual, Ben Doyno and Reilly sat together, and as usual, some odd third man held down the third chair. They never seemed to have the same third man with them two days in succession. Today it was Lou Brackett, the Macon dealer, who strayed in at 12:20, spotted the empty chair and took possession of it.

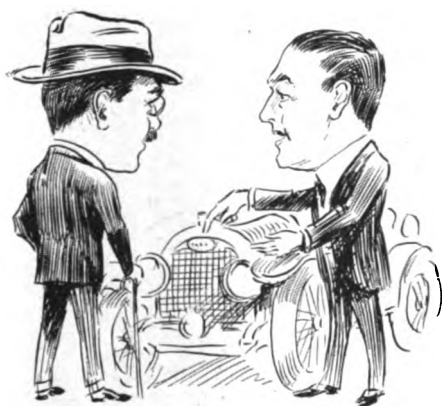
"Well——" Began Ben

"What's the leader today?" Lou picked up the bill-of-fare with the air of a man who hates the sight of one.

"Fish and ——"

"S'nough!" snorted Brackett. He laid down the card and looked out the window. "Crackers and milk and coffee, cold milk on the side," he said to the waiter.

"Well——" began Ben as he always did after the waiter had scurried away.



"When he went to your place the job was new and he worked hard——"

"How's things?" said Reilly, taking the last half of Doyno's stock remark out of his mouth.

Brackett didn't sense the humor of it so he replied that business was pretty good—which was true of all the Callawassa dealers.

"How's the new salesman?" asked Reilly of Brackett, who three weeks ago

had engaged the services of a young man of good looks and self-admitted ability.

"Just fair! Reilly, just fair!" And Brackett shook his head a trifle dolefully and twisted a salt cellar around and around until he spilled a spoonful of salt. Then he quit.

"Thought he was hot stuff. You said he was," answered Doyno, the supply-man.

"He was—so I thought," was the Macon dealer's meditative answer. "I still think so, but something's happened to him. He's lost his stride. He doesn't seem to be stepping as well as he did. I guess the hot weather's got him."

"Old broom! Old broom" laughed Reilly.

"Old broom?" questioned Brackett. "What's the old broom stuff?"

"You know, 'a new broom sweeps clean'," replied Reilly. "He's worked out his newness. He's an old broom in three weeks."

"Maybe that is it," ruefully returned the Macon merchandiser.

It Can't Be Done

"I've seen several like that lad," continued the Sennett dealer. "Also, without trying to make myself out a prophet, I put him down for a new broom the first time I saw him in your salesroom. He acted like one."

"Well, if that's what ails him how can I make him into a new broom again?"

"You can't."

"I can't!"

"No! No one can do that but the young man himself. If he doesn't want to be a new broom all the time nothing on earth can help him. That is strictly up to the young man."

"Huh!" grunted Brackett.

"He's one of these fellows who wonder why they don't get along," explained Reilly. "He goes from job to job in an effort to find the big opportunity. He believes the chance will come some day if he only waits long enough, while the chance is staring him in the face every day and he doesn't see it. He looks outside himself for the reason for his failures, whereas the reason is inside his own



"If he doesn't want to be a new broom all the time nothing on earth can help him. That is strictly up to the young man." "Huh!" grunted Brackett

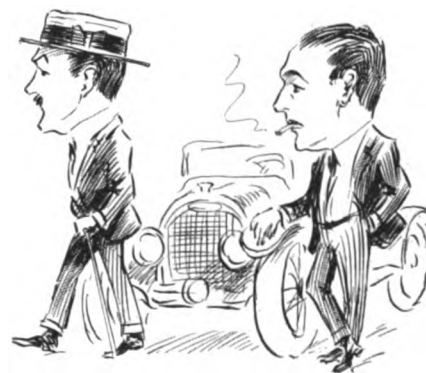
nut under his blue-banded panama hat."

"I've seen 'em!" interjected Doyno. "Got two of 'em in my store now."

"When he went to your place the job was new, the surroundings were new, he had a new car to sell, he was in a new town, and he worked hard. But as soon as the newness wore off he slacked up. That's the way the new broom stuff works out. When the job gets old the pace slackens and the man begins to deteriorate. When he came you thought he was good—and he was good. But now you are disappointed in him because he isn't showing the pep he did when he landed."

An Exaggerated Slump

"Also, Lou, you may not realize it, but he hasn't slipped as badly as you think he has. He is better right now than you think he is. The trouble is, he looked so good when he came with



"——but as soon as the newness wore off he slacked up. Now you are disappointed in him"

you and you expected he would become so much better that his failure to progress has given you an enlarged conception of his deficiency. If his batting average was 75 when he started in you expected it would rise to 100. But if it has slipped back to 70 that makes a difference of 30 below what you expected, and because you have this difference in

A Real Bear Advertises the New Overland in Stamford, for "It's a Bear"



The Mechaley Auto Co., Stamford, Conn., painted this big sign on the fence beside its garage, facing the street, draped some American flags, put a real cub bear into the enclosure and made itself and the new Overland the talk of the town and surrounding country

mind you subtract the 30 from his original 75 and rate him at 45."

"That's an odd way to figure," smiled Brackett.

"But it's true just the same," supported Doyno.

"This becoming an old broom is something that is likely to happen to every one," added Reilly. "When a man gets a new job he makes every effort to make good. He watches himself and plugs hard, and because he makes this strenuous effort he generally does make good. After he feels that he has made good he quits watching himself and slacks up, and from that point he fails to progress.

"This has been accurately gauged in factories where work is by the piece, or where a scientific check is kept on production. Many men when they are new at the job will turn out more than they produce after the strangeness of the shop has worn off. The workmen are unable to explain it; in fact, unless it is called to their attention they won't know it.

"You can't stand over a salesman with a whip and tell him he must do so much or be fired. You are never sure what his ability is, and you dislike to think you have discharged him because he did not do what you placed as a task when he really was not capable of it. The live salesman will work up to the limit of his ability because he is anxious to advance himself. This man requires no watching for fear he will fall down on production. He comes to you, starts in well and keeps up the pace, because he knows he has to watch himself and keep on his toes or he will lose out.

"When a man starts on a new job he is often more efficient because every sense is awake and he is bending every energy to fit in with his new surroundings. When the surroundings have become a matter of habit he should be able to expend that released energy in going further ahead.

"When the kaiser straightened out his Russian battle line it released, say, 500,

000 soldiers. That is energy released after the strangeness of a new job has worn off. If the soldiers sit down in Poland and play pinochle it is wasted energy. It—"

"Now, Reilly," said Brackett with a gesture of silence. "Please leave the kaiser out of this. The last time you brought him in to lunch I didn't get back to the office until 3 o'clock."

Brought the Seashore to Sweltering Broadway



The Maxwell New York branch, 1808 Broadway, had this window set up by a decorator. The foreground is sand and at the left are two sand men and a sand model of the Maxwell. A turtle adds realism. The frame at the left displays a series of Maxwell touring scenes from nightfall to midnight, the apparatus being operated by an employee

Dealer's Legal Status

Dealer Who Agrees to Sell a Used Car for a Certain Figure
Is Responsible to the Owner for That Amount—
Insurance Company Not Liable

By George F. Kaiser

AS almost every garageman is an occasional seller of used cars, a case which was recently decided in New York in which it was charged that the dealer had been guilty of "theft, robbery or pilferage," is naturally interesting.

A motor car owner had insured his car for the sum of \$1,500 against loss or damage by theft. Some time after that the car was placed in a garage in New York city, with the understanding that the dealer was to sell the car. An agreement was entered into between the owner's chauffeur and the dealer's representative which read as follows:

This is to acknowledge receipt of your 1913 Hudson touring car, with the following equipment: Two shoes, regular equipment. It is agreed and understood that R. W. Lewis, Inc., is to sell said car and pay you the sum of \$700 in full payment for same, said payment to be made after R. W. Lewis, Inc., has sold above mentioned car. It is further agreed and understood that there is to be no charge for storage or other charges, and that you may end this contract and remove car at any time prior to sale without notice. I am the sole owner of the above mentioned automobile and guarantee same to be free and clear from all incumbrances. These statements are made by me for the purpose of inducing R. W. Lewis, Inc., to accept my car as above mentioned.

Date, September 28, 1914.

R. W. Lewis, Inc.,

By A. E. Kannengieser.

H. A. Siegel.

Witness: E. Garcel.

Accepted: Harry Prince.

The night after the agreement was signed the car was sold by the dealer for \$400. The owner claimed that this was larceny on the part of the dealer and that the insurance company should indemnify him under the policy which it had issued.

The court held that this was a case of "sale or return," and that until the car was sold either party might terminate the contract; that after it was sold the dealer was indebted to the owner in the sum of \$700 for goods sold and delivered and as all control over the car had been

passed to the dealer the insurance company was not liable under its policy for theft and larceny, and the owner's only remedy was to attempt to get from the dealer the \$700 which it agreed to pay for the car. (*Siegel vs. Union Assurance Society of London*, 153 N. Y. S. (New York), 662.)

Contracts by Unauthorized Agents Do Not Bind Maker

Though Maker Mentioned a Person as Its Agent There Was No Contract

In a recent Kentucky case it was decided that an automobile company is not bound by a contract made by one who represents himself to be its agent if, in fact, he is not its agent.

Suit was brought against a motor company to recover an automobile, or \$475, its approximate value. The party bringing suit had traded in an old car and paid \$175 in cash to one whom he believed to be the agent of the manufacturer. This party was not really an agent, however.

The court gave judgment for the manufacturer, holding that the mere fact that he signed a receipt as agent and the manufacturer had written to other people who had applied for agencies in his territory, mentioning him by name as agent, did not make the manufacturer responsible when the pseudo agent accepted cash and a used car and was unable to deliver the new one he had promised. (*Short vs. Metz Co.*, 176 S. W. 1114.)

Court Complications Follow Blowing Off of a Side Ring

Court Held Injured Chauffeur Must Detail His Duties to Recover Damages

The very interesting question of when a dealer is liable for injuries sustained by an employe came up in a novel case recently decided by the Supreme Court of Pennsylvania.

Suit was started by a chauffeur to recover damages for injuries which he

claimed he sustained while replacing a punctured tire on the wheel of his employer's motor car. The tire was held in place by a ring with a clutch at each end, which was intended to pass into a hole in the rim of the wheel and to be held by a projection on the clutch when air was put into the tube.

The chauffeur claimed that he gave notice that there was something wrong with the wheel, but was told by his employer that he did not wish to make any repairs as he intended getting a new car.

While the chauffeur was filling the tire from an air tank the ring flew back, struck him in the face and injured him severely.

The Supreme Court of Pennsylvania held that in order to recover damages for an injury of this kind a chauffeur must show what the usual and ordinary duties of a chauffeur are, what knowledge he should have of the mechanism of a motor car and whether there was any danger to a competent chauffeur while replacing a tire under the circumstances present in this case.

The court further said that before the chauffeur could recover, the position he was in when he was struck by the ring, how far he was from the wheel, whether or not he saw the ring move before he attempted to turn off the air, and where the air tank was, would have to be considered. (*Richardson vs. Flower*, 93 Atlantic (Pennsylvania) 777.)

Sale in Dealer's Territory Belongs Rightfully to Dealer

Maker Made a Sale in Exclusive Territory But Had to Pay Dealer

In a recent Virginia case a dealer was successful in recovering his commissions on the sale of a motor car when the sale was made by the manufacturer direct in his exclusive territory.

The dealer had contracted with the general agent of the company for certain exclusive territory for a specific time. The dealer thereupon endeavored to interest various parties in a motor truck, and while so negotiating, found out that one of his prospective customers had purchased a car direct from the manufacturer. The latter wrote the general agent crediting him with the commission on the sale. The dealer demanded that the general agent pay over the commission to him and when this was refused brought suit.

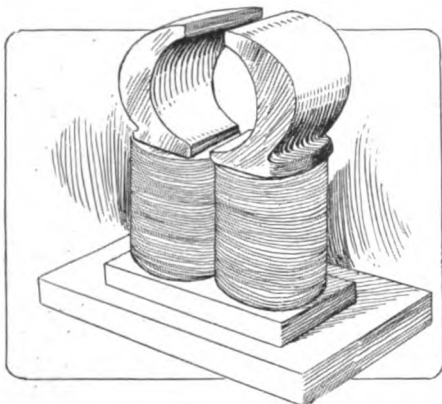
The court gave judgment in his favor, saying that he was clearly entitled to recover from the general agent, as he had brought the truck to the attention of the purchaser and was the procuring cause of the sale. (*Eastern Motor Sales Corp. vs. Apperson Lee Motor Co.*, 85 S. E. 479.)

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Motor as Magnet Recharger (No. 151)

An old motor, such as the one illustrated, makes a satisfactory magnet recharger. It is designed for a 110-volt circuit and has the armature removed.



(No. 151)

How pole pieces of old motor make a magnet recharger

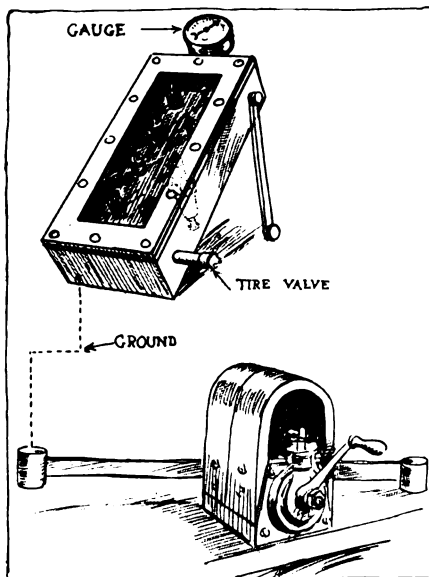
The electrical energy is obtained from a 12-volt battery which furnishes current to the shunt field only.—T. E. Jensen, L. R. Mack Co., Albany, N. Y.

A Pressure Plug Tester (No. 152)

It is a well-recognized fact that a spark plug that will work all right at atmospheric pressure may fail when subjected to compression pressure. Furthermore, a magneto may furnish sparks that are satisfactory under atmospheric pressure yet when the plug is subjected to compression pressure the spark may be weak or may not occur at all. A device which reproduces working conditions in the cylinder and which will quickly show whether the trouble is in spark plugs or magneto is illustrated on this page. It is merely a box with a glass face. There are holes in the back into which spark plugs may be inserted, and the pressure inside is brought to the required amount by means of a hand pump attached to a tire valve as shown. A gauge registers the pressure. The sparking of the plugs can be observed through the glass, which is 5/16 inch thick.

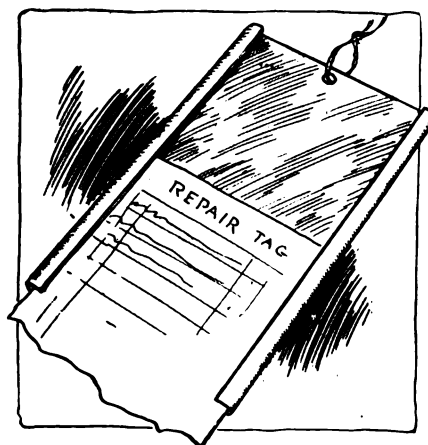
Ordinarily there are eight plugs, known to be in perfect condition, in the box, and these are used in testing magneto or coil. If a good, hot spark is delivered at all plugs when they are subjected to compression pressure, it is known that magneto or coil is not at fault.

If a magneto is to be tested, it is grounded on the car in front of the testing box, the high-tension leads are run to four, six or eight spark plugs, as the case may be, pressure is applied, and the armature is cranked by hand. Any



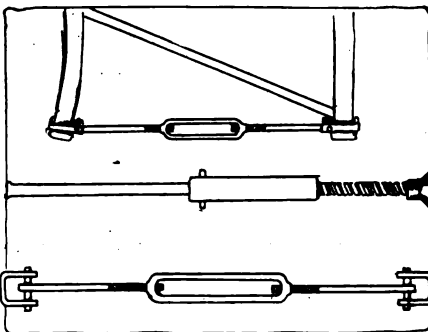
(No. 152)

Upper—Pressure chamber for testing spark plugs. Lower—Magneto placed against grounding bar



(No. 154)

Sheet metal frame for protecting repair tag



(No. 153)

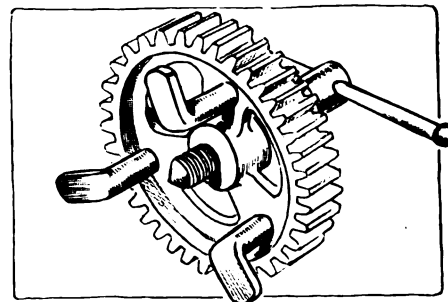
Turnbuckle and special jack for frame straightening

defect in the magneto is perceptible by the character of the sparks.

If the magneto or coil are found to be in good condition the spark plugs are removed from the motor and tested. The spark plug holes have all types of threads, S. A. E., pipe and metric, so that any type of plug may be tested.—Arthur Youngs, Youngs & Co., Newburgh, N. Y.

Gear Makes a Gear Puller (No. 152½)

A gear puller made out of an old gear has three hooks which are designed to engage the rim of the gear from the



(No. 152½)

A gear puller can be made of a discarded gear wheel

inside. There is a central screw which is used in applying the necessary force to pull the gear off.—Harmon Wirebaugh, A. H. Wilson Motor Car Co., Canton, O.

To Straighten Frames (No. 153)

Bent frames can be easily straightened even when cold if the proper tools are at hand. Most work of this nature can be accomplished by the two tools shown. One tool is for pulling and the other for pushing. Supposing a front spring horn on one side were bent outward, then the pulling tool would be used, one end being attached to the bent spring horn and the other to the other. The latter would be braced by a piece running diagonally to the axle. Then by turning up on the turnbuckle the horn will be brought back to its normal position. If a spring horn were bent in the opposite direction the pushing tool would be used.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

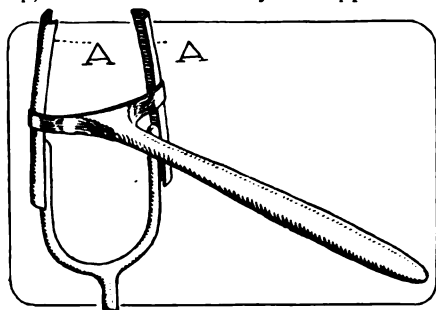
Protector for Repair Tag (No. 154)

To protect the repair or inspection tag attached to the car from becoming soiled a sheet metal holder should be employed. It has a hole drilled at the top to put a string through and its edges are turned over at either side to hold the card.—J. C. Work, Davis Motor Co., Cleveland, O.

Lamp Bracket Straightener

(No. 155)

A simple tool for straightening head-light brackets on Fords is shown herewith. It consists of two grooved members, A, which are yoked together. The two members are nearer together at the top, so that the tool may be slipped over



(No. 155)

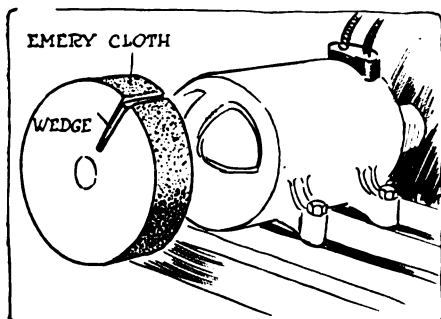
Tool for straightening bent lamp brackets

the lamp brackets on any Ford, and fit snugly. Straightening is effected by moving the handle of the device as required.—John Van Benschoten, Van's Garage, Poughkeepsie, N. Y.

Emery Paper Grinding Wheel

(No. 156)

A grinding wheel for doing special work can be made by attaching a wooden wheel to the electric drill and wrap-



(No. 156)

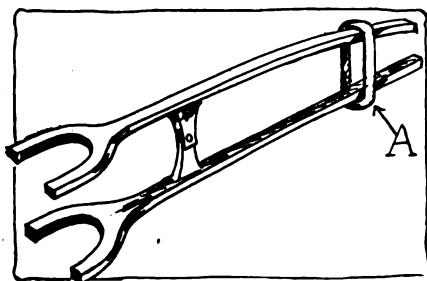
Special grinding wheel made from a sheet of emery paper

ping a strip of emery paper around the periphery. The paper is fastened by cutting a notch in the wheel and holding the ends of the paper by driving a wedge into the notch. Coarse or fine emery paper should be used, according to the work to be done.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

Tower for Disabled Cars

(No. 157)

A good device for towing cars with



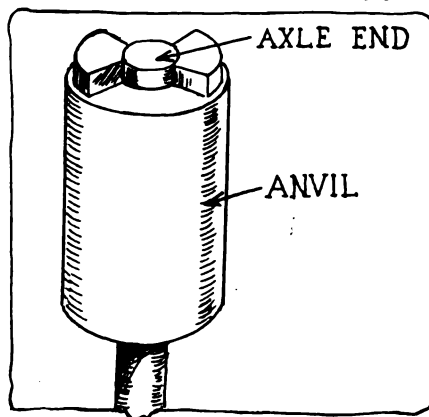
(No. 158)

Valve spring remover

Valve Spring Remover

(No. 158)

Here is a valve spring remover that can be used on nearly all motors. After the spring has been compressed by press-



(No. 162)

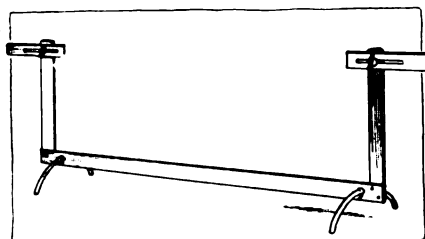
Anvil for taking play out of dog clutches

ing the handles together, it may be held in this position by adjusting the ring.—J. Weir, Loveland & Co., Cleveland, O.

Simple Wheel Gauge

(No. 159)

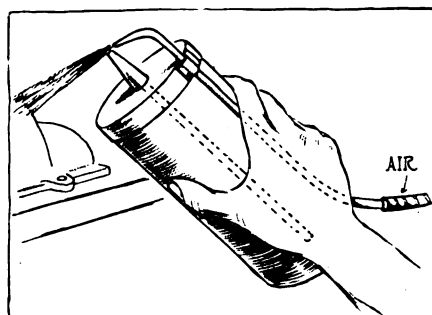
A simple and very efficient wheel gauge is shown herewith. It is made of flat bar stock and is supported by four feet



(No. 159)

Gauge for testing front wheel trueness

which consist of two bars of stock bent the shape of an arc, and fastened to the gauge frame at their centers. The ends of the gauge are slotted and butterfly nuts are used to allow adjustment.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.



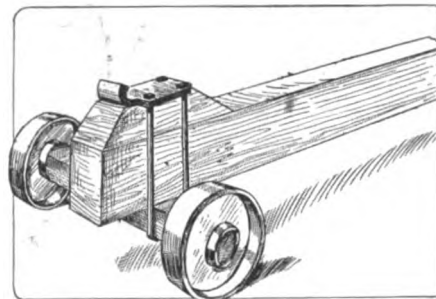
(No. 160)

Spraying can for painting metal objects in the shop

Device for Spraying Paint

(No. 160)

Painting parts in the shop is most easily accomplished by means of the spray shown. It consists of a copper can with a nozzle in the center which runs to



(No. 157)

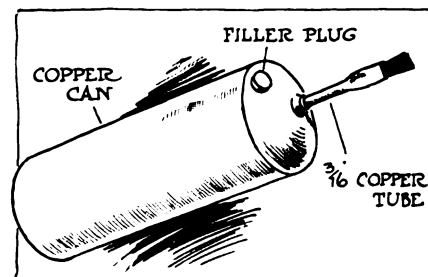
Towing device for bringing in cars with broken wheels or axles

the bottom of the can. The painting is done by throwing a jet of compressed air at right angles to the nozzle. A mixture of lamp black and turpentine is a good paint for this purpose.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

Fountain Brush for Acid

(No. 161)

Soldering acid is most conveniently applied by means of the combined can and brush shown. An ordinary copper can about 3 x 8 inches is used and it is provided with a neck made from a piece



(No. 161)

Soldering acid can with automatically fed brush in end

of 3/16-inch copper tubing. Into this tube some paint brush bristles are inserted and then made fast by flattening the neck. The amount the neck is compressed determines the flow of the acid and a very delicate adjustment can be made by this means. There is a filler plug in the top of the can so that more acid may be added as desired.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

Dog Clutch Anvil

(No. 162)

When the dog clutches on the axle shafts become loose they can be made tight again by heating and drawing out the metal to a little larger than its original size and then grinding it to fit. An anvil for this purpose can be made out of a chunk of iron with a hole drilled through it large enough to receive the axle shaft.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

WIDE-AWAKE MERCHANDISING

GET OUT AFTER ACCESSORY TRADE

Outside Salesmen to Watch the Cars as they Go By

In building up an accessory business, if the customers will not come to the store the storekeeper must go to them or quit. "But how can a man tell what car owners are in the market for supplies?" many dealers will ask.

The answer is easy. Hire an outside salesman on a commission basis, let him inspect the cars as they stand at the curb, note what each car needs and take its license number. Later, he ascertains the owner's name and address in each case, calls on him and frequently sells him what he needs.

For example, if the salesman should see a tire with a badly worn tread he would endeavor to reach the owner and sell him a new tire, or if the car were not equipped with shock absorbers, he might persuade the owner to purchase a set. Having made the initial sale, the rest is easy. The salesman watches this man's car closely and is on the job when anything is needed.

The idea has endless possibilities, and at least one firm, the Fen-Far Co., Cleveland, O., has largely built up its trade by this method. The first call on an accessory prospect obtained in this way is generally at his business address, and if he is too busy the salesman later sees him at his home, but this concern has found that usually a man is willing to take time away from his business to talk about accessories mainly because he is proud of his car and likes to talk about it.

SHOW WINDOWS SPOILED BY POOR LETTERING

An accessory store window obstructed by lettering too low down is about as attractive as a good-looking girl wearing a heavy veil—the one defeats the purpose of the other. The Road Man has seen many good accessory windows that were spoiled because the lettering prevented a full view. Such misuse of display space is unpardonable and should be corrected.

UNIFORMED CURB ATTENDANT INCREASED BUSINESS

Increased patronage has been enjoyed by the Fen-Far Co., Cleveland, O., dealer in accessories, since it detailed a man to supply customers with gasoline and free



The gentleman of color who dispenses gasoline and air for the Fen-Far Co., Cleveland

air. This man, a negro in uniform, devotes all his time to selling gasoline and inflating tires, and usually while these operations are being performed the owner will drop into the store to buy some small article.

FARMER JONES BOUGHT

When the dealer drove out to show Farmer Jones one of the new sixes he found him busy loading hay.

"No, I'm too busy to look at that car for a month or two," said he, mopping his brow with his forearm; "anyway I guess the car I bought last year will do."

But the dealer knew the farmer well enough to feel certain that he would buy the car after riding in it, as he appreciated power and hill-climbing ability, both of which the car had.

"Well, I'm going to leave the car here a couple of days anyhow, and when you're through for the day, cool off by taking a spin in it. Here is the switch key. I'll take the interurban back."

Two days later the dealer received a check by mail.

LACK OF THOUGHT SPOILED CHANCE

No One in Vicinity Has Them, said Very Sleepy Salesman

Two men walked into a haberdashers to buy some soft collars. The clerk showed them a very limited line, cheap-looking and unattractive.

"No, these are not what we want," said one of the men. "Haven't you got any of those fine silk ones like So-and-so has downtown? Surely those are not the only ones you have to offer."

"Sorry, but this is the only kind that is sold in any store in this section," said the clerk, and the incident was then closed.

The clerk did not know he had missed an opportunity. If he had been wide-awake and full of enthusiasm he would have inquired who was selling this brand of collars, what make they were, what they cost, and would have promised to have some for these two men inside of 24 hours. By his interest he would have made these two men permanent customers.

The fact that nobody in the vicinity had them for sale should have made it plain to him that there was a chance to increase business while the other fellows were still asleep; but the salesman did not think and so lost his opportunity.

Why didn't he think? Possibly because his mental capacity was below standard.

MEETS PROSPECT'S DESIRE IN DEMONSTRATING

H. B. Wynkoop, Long Beach Hudson and Dodge dealer, has a new system in demonstrating. Instead of taking the prospect out on a trial run, Wynkoop asks just what the prospect believes is the performance the car should give. When he secures the desired information he goes out with the car and performs the suggested feats, often putting in some extra features. Wynkoop claims that it makes a greater impression upon a prospective customer to give his own demonstration than one suggested by the dealer which he has a chance to believe has been practiced.

Typewriter Service

When the Car Owner Asks Excessive Service Tell Him This Story

By Robert Foster

A year ago I bought a typewriter. It was a good machine and both it and the service I received from the typewriter company have been satisfactory. I didn't get all that one might expect as service but I have no occasion for finding fault with the company.

They told me the machine was guaranteed for one year, and that it would be kept in good working order and that any broken parts would be replaced without charge.

I hadn't had it long when one of the type bars snapped off. Why it did so I don't know. It may have been my fault; it may have been the fault of the metal. Anyway, I telephoned for a repairman and he put in a new type bar. He looked at the broken part, put it in his repair case and made no charge. I guess it was such a small part that he didn't care whether it was defective.

Paid for Cleaning

I asked him if he would clean the machine for me. He said he would but that I would have to pay for it. The charge wasn't much, the machine needed cleaning and I don't like to monkey with such dirty jobs, so I paid him.

He said I also needed a new ribbon. Without even expecting he would give me one I agreed with him and bought a new ribbon. Later on the cylinder went bad and I got a new one. The typewriter company said this was not made in the typewriter factory and that the matter would be taken up with the maker. The maker made good, for it was admitted that the part was a poor piece.

Free Adjustments

Once or twice the machine didn't seem to run well so I sent for the repairman. He stuck his fingers into the works, made a couple of adjustments and set me right again. For this he made no charge.

One night I tried to shut the desk without having moved the carriage to the center and it was jammed. This cost me something, and I never questioned the charge. It was my fault. But the machine has done good work for me and if I ever buy another I shall repeat.

Now—Was I disgruntled because the company would not replace ribbons for me? Did I believe they should make repairs that were caused through my own negligence? Did I expect them to keep the thing cleaned and oiled? Did I expect a man to come regularly every month and inspect it? Did I expect they



A whole theater curtain is rented by Rudolph, Phoenix Ford dealer, to advertise his business. The advertisement is appropriately attractive and is good publicity

would replace parts that they bought and which were not covered by their guarantee?

I did not! And I never considered the service anything but good.

I did expect, however, that when I sent for the repairman he would show up quickly, that he would take his hat off when he came in, that he would not track mud and dirt all over, that he would not saunter in with a cigarette in his face, that when he made an adjustment it would be well made and right, that he would advise me properly as to what needed to be done in case it fell outside his province. I expected courteous service from the whole organization.

And then when I buy a car should I expect the dealer to straighten out a fender when I skid into a tree, or wash and polish the car, or oil and grease the machinery, or do a hundred and one other things? Why should I? I don't know why I should, but if I am the average owner I do expect excessive service.

THEATER CURTAIN CARRIES HIS AD

Phoenix Dealer Adopts Novel Method to Make Impression

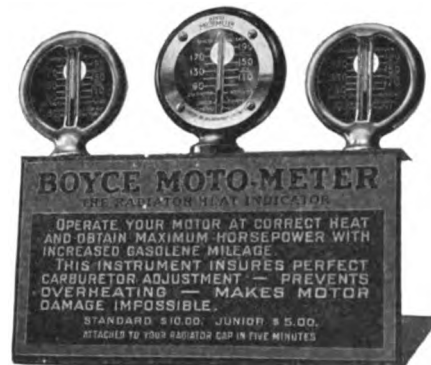
Ed Rudolph, proprietor of the Ford Garage, Phoenix, Ariz., has leased the entire curtain of the Columbia Theater for advertising purposes. In the center of a large tire is painted the world famous Roosevelt Dam and a sketch of the Salt River Valley. In the upper corners of the curtain the Ford emblem appears with Rudolph's business address below.

On the tire are the words "Firestone non-skid." Through clever and systematic advertising Ed Rudolph has built up one of the largest automobile, tire and accessory concerns in that section of the southwest.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith and this will be followed by others which have been especially designed for the purpose of assisting the dealer in bringing his merchandise to the attention of possible purchasers. Manufacturers who supply these devices are urged to forward photographs or sketches of them.

An accessory that is a necessity has an excellent chance of being exchanged for coin of the realm provided it is well displayed. This stand, which is supplied gratis to dealers by the Motometer Co., 1790 Broadway, New York, displays Moto-Meters well. It shows the three types. The stand is intended to be placed on the counter where the customer can handle the devices as well as see them



Repairing and Adjusting

An Easily-Made Oxygen Generator

The generation of oxygen is a very simple matter and requires only the proper chemicals and a means of confining them. The simplest laboratory method of producing oxygen is by heating potassium chlorate mixed with manganese dioxide. Although the heating of the potassium chlorate alone will produce oxygen the manganese dioxide acts as a stimulating agent.

A suitable generator for producing oxygen to be used for burning carbon from motor car cylinders is shown in Fig. 1. It consists of a piece of 1½-inch seamless iron pipe 4 inches long. It is threaded at its ends and upon them caps are fitted, one of the caps being drilled and tapped to receive a piece of ½-inch brass tubing bent L-shaped. Into the end of the tubing is soldered a piece of flexible copper tubing, the end of which leads to the cylinder. A special nozzle may be bought, but this is not entirely necessary.

To generate oxygen, the left cap is unscrewed and a mixture of potassium chlorate and manganese dioxide, in the proportions of 2 ounces of the former to a tablespoonful of the latter is placed in the pipe. The cap is put in position and the flame of a blow torch played on the bottom of the iron pipe. In a short while oxygen will issue from the end of the copper tube, which should be inserted directly into the cylinder against the carbonized area.

Spark Lever Ignition Switch

There are some motorists who require a simple means of shutting off the motor when descending a hill; the regular switch is too hard to reach. For these men there is nothing better than an extra ignition switch connected to the spark lever linkage in such a way that when the lever is retarded all the way the current is shut off.

Water Rheostat for Battery Charging

Resistance for charging storage batteries can conveniently be supplied by a water rheostat (Fig. 2) which consists of a small barrel containing two lead plates and acidified or salt water. Each plate should be about 1 foot square and ¼ inch thick. Such an arrangement may be used in a 110-volt circuit and the charging rate varied by bringing the plates closer together or separating them. In the latter case, the resistance is made greater and in the former less.

The specific resistance of the liquid decreases with the amount of salt or acid added so that the correct composition

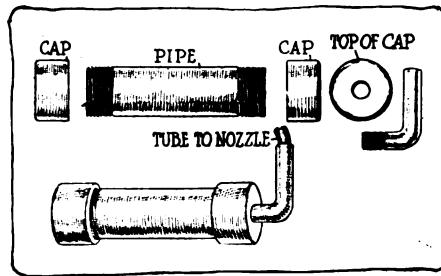


Fig. 1—Homemade oxygen generator

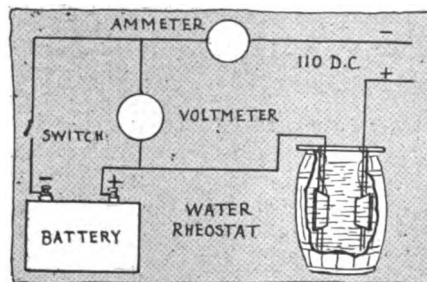


Fig. 2—Water rheostat for battery resistance

must be determined by trial. Ordinary sulphuric acid or common salt may be used.

Taps for Special Threads

When a special thread is to be cut for which there is no tap available, it is advisable quickly to turn up a suitable tap on the lathe out of cold rolled steel, and then after fluting it, it should be case hardened. The whole operation should not take over half an hour.

Babbitt Injured by Remelting

Remelted babbitt stock should never be used for important bearings such as main and connecting rod because the melting alters its composition to a certain degree.—Orville Hauser, Chilli-cothe, O.

Width of Belting for Shafting

To determine the width of a belt for line shafting use the following formula: Width in inches equals:

$$\frac{\text{Horsepower} \times 12,000}{\text{Diameter of pulley in inches} \times \text{number of plies} \times \text{r. p. m.}}$$

The number of plies is a measure of the belt's thickness; small belts are usually one or two plies while larger ones run up to four.

What to Use On Leather

Do not use gasoline in cleaning leather upholstery. Plain water with a little ammonia will remove the dirt and a

brisk rubbing with a clean woolen or flannel cloth will do the rest. For still more careful treatment use a regular leather dressing.

Tar Removed By Salt Butter

When the car body becomes spotted with road tar a good substance to use for removing the spots is salt butter. This should be applied as soon as possible, for should the tar begin to harden refinishing of the body may be found necessary.

Soap Is Speedometer Gear Lubricant

Ordinary soap is used by some repairmen to lubricate speedometer driving gears. It acts as a lubricant and quiets them.

Inserting Piston Rings

The rolled steel rings now used on many cars cannot be inserted by expanding them over the head of the piston. If this is attempted the rings will be bent and ruined.

To insert the rings, lay each ring flat on the head of the piston. Take hold of one end and press it downward until it slips into the first groove. With the other hand, turn the ring around with a screwing motion toward the entering end. The ring will then thread itself into the groove with very little trouble and without any danger of being kinked or expanded.

To remove rings, reverse the operation by starting one end out of the groove and turning it out by screwing it around the piston. If necessary use a pointed tool to lift the end out of the groove in starting, but be careful not to bend the ring.

When several rings are to be put on a piston, the bottom one must be threaded down through all the grooves first, until in place. Then follow with the others. The last ring to fill the groove is usually the most difficult to get in place, but this can easily be accomplished if care is taken to see that the end enters the groove to its full depth and is held there during the threading operation.

In handling rings be careful not to dent or mar them with tools, as the material is very soft and if ring is bent or marred it is useless.

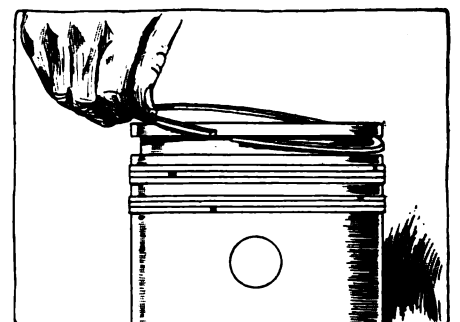


Fig. 3—How to put in steel rings



ACCESSORIES & SUPPLIES :

GOMOR MOTOR LUBRICANT

Gomor Oil Co., Detroit. PRICE, 1 gallon, \$2.50; 5 gallons, \$11.25; 10 gallons, \$21.50; 30 gallons, \$60; 50 gallons, \$95.

This is a motor lubricant added to the gasoline which is said to increase power, speed and flexibility, decrease gasoline consumption and prevent carbon formation.

MAGNALITE ALLOY PISTONS

Walker M. Levett Co., Tenth avenue and 36th street, New York.

Less vibration and a cooler motor are the features claimed for these pistons,



Magnalite alloy pistons

which are made from an aluminum alloy which is said to be lighter than aluminum and stronger than cast iron. The lightness minimizes vibration and the higher conductivity enables a quicker transference of the heat to the water jackets. Pistons for all cars are manufactured. Ordinary cast iron rings or magnalite rings may be used.

AMOS POST GARAGE SIGN

Amos Post, Catskill, N. Y. PRICE varies with sign.

This sign is attractive and easy to read by day or night. In daylight it shows white lettering with a dark background and at night the background remains dark but the lettering changes colors several times each minute. Ordinarily the sign is made with three color

variations, red, green and white, and these succeed each other about 10 times per minute, as follows: Top, red, and



Amos Post garage sign

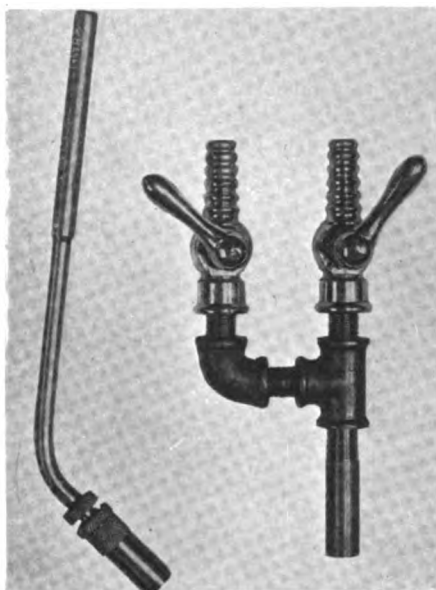
lower, white; top, white, and lower, green; top, green, and lower, red.

The features claimed are maximum visibility by day or night, simplicity and durability. It is made of plate glass set in a frame of cypress. The painting is on the inside so that the exterior is not affected by the weather. The cost of operation of a sign 30 x 96 is 1 cent per hour with current at 6 cents per kilowatt. Eight 15-watt lamps are used.

GAS LEAD BURNING OUTFIT

Electric Storage Battery Co., Philadelphia. PRICE, \$9.75.

This device is preferable to a regular lead burning outfit, according to its maker, because of the low initial expense,



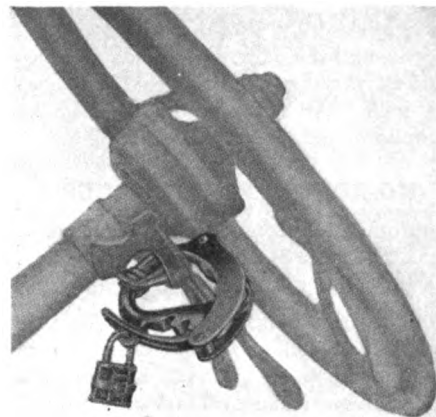
Gas lead burning outfit

indestructibility, low operation cost, small size and small amount of attention required. It consists of a special finger pipe and tip, and a mixing Y. One leg is connected to the gas main and the other to the air supply. The tip may be readily taken apart for cleaning. Natural gas will not give satisfactory results. Gas consumption is approximately 20 feet per hour.

HANDEE AUTO RAIL LOCK

Racine Handy Mfg. Co., Racine, Wis. PRICE, standard, \$1.50; for Fords, \$1. DEALERS, 50 per cent.

It consists of two adjustable jaws that are closed by an ordinary padlock. Its



Handee auto rail lock

many uses include locking spark levers, robes, overcoats, suitcases, and shifting levers.

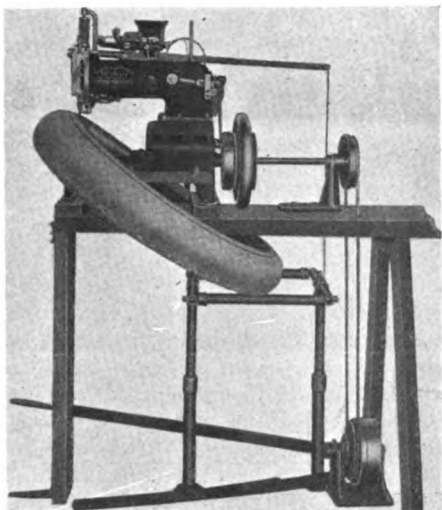
WINSLOW GRAPHONOIL LUBRICANT

Winslow Lubricating Co., Buffalo, N. Y.

A lubricant called Graphonoil is said by the makers to hold graphite in suspension, so that it will not settle out or clog passages through which it passes. The mixture is said to possess the combined advantages of both graphite and oil.

Are You Guilty?

Page 5



Landis tire stitcher

LANDIS TIRE STITCHER

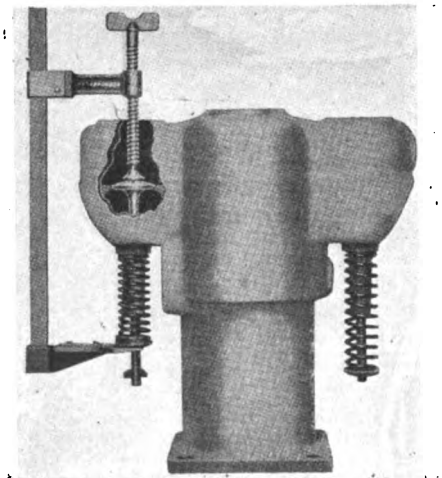
Landis Machine Co., 1515 North 25th street, St. Louis. PRICE, \$390 without bench, 15 per cent discount for cash. Time payments, \$90 down and \$50 per month.

To make two old casings into one is the purpose of this machine, and this is accomplished by stitching the two casings around the edge. The machine gives a stitch varying from $2\frac{1}{2}$ to 12 stitches per inch. All sizes of work may be accommodated.

NO-LEAK-O PISTON RINGS

Automobile Accessories Co., Baltimore, Ohio. PRICE, $3\frac{1}{2}$ -inch, 50 cents; 4-inch, 60 cents; other sizes proportional.

This ring is built on the principle that a continuous oil groove in a ring is an effective compression seal; but when a groove is cut in an ordinary ring the oil is sucked out and the ring rendered ineffective. To overcome this fault a spe-



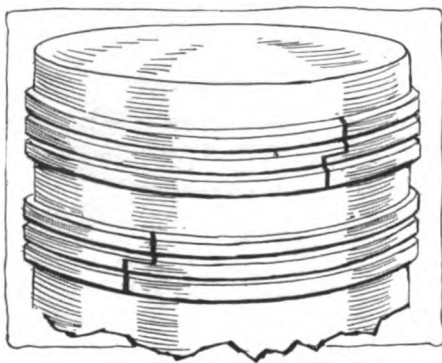
Metz valve spring release

cial form of lap joint and two grooves are used, the close fit preventing the escape of the oil.

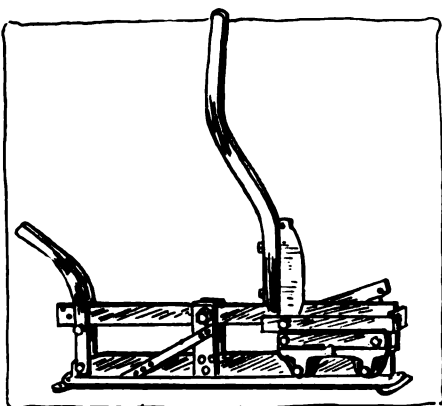
MERTZ VALVE SPRING RELEASE

H. B. Mertz Co., 1408 Rutherford avenue, Pittsburgh. PRICE, \$2. JOBBERS, 50 per cent. DEALERS, 40 per cent. GARAGES, 30 per cent.

This tool allows both hands to be used in removing the valve key. The sliding arm locks on the vertical bar automatically so that adjustment to any length is instantaneous. There are five vertical bars to suit different motors. The fork which straddles the valve stem and lifts the spring seat is adjustable.



No-Leak-O piston rings



Machine for making louvers

MACHINE FOR MAKING LOUVRES

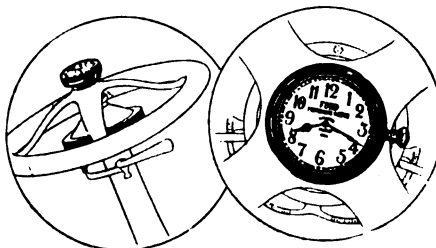
R. G. Ames & Co., 1339 Michigan avenue, Chicago. PRICE, 35, complete.

With this machine any hood may be equipped with ventilators in 15 minutes. It does not mar the paint. The charge varies from \$1.50 to \$2 per hood.

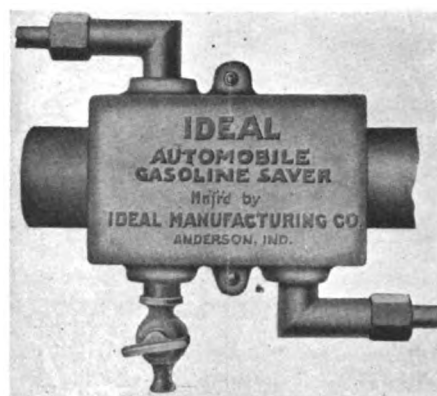
MOTERING WATCH FOR FORDS

Motoring Clock Mfg. Co., Sullivan, Ind. PRICE, \$2.50.

A high-grade watch mounted on a



Motoring Watch for Fords



Ideal gasoline saver

bracket which takes the place of the nut that retains the Ford steering wheel.

IDEAL GASOLINE SAVER

Ideal Mfg. Co., Anderson, Ind. PRICE, \$3.50.

Based on the principle that a motor will operate more economically on hot gasoline it is claimed that from 3 to 5 miles per gallon more can be obtained on Overlands, and 7 miles more on Fords—the only two machines the device is made for. On the Ford the saver, through which the gasoline flows, is placed on the exhaust pipe and one the Overland on the muffler. It may be attached with a file and monkey wrench.

HALLADAY HEAVY CAR SHOCK ABSORBER

L. P. Halladay Co., Streator, Ill. PRICE, \$9 per pair.

These are of the coil spring type, and designed only for the rear springs. They



Halladay heavy car shock absorber

are sold under a 30-day trial offer and are guaranteed for the life of the car.

Are You Guilty?

Page 5

UNIVERSAL FOLDING CHAIR

Asch & Co., 1779 Broadway, New York. PRICE, DEALERS, \$12 per dozen.

This is a comfortable all-steel folding chair which may be used as an auxiliary in the tonneau, or for picknicking. It folds into a very small space and weighs only 9 pounds. It is finished in black enamel, baked on.

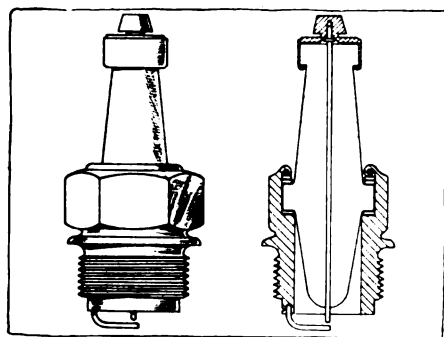


Universal folding chair

PASHA PORCELAIN SPARK PLUG

Pasha Spark Plug Co., Bloomfield, N. J.

Has a single-piece central electrode baked into hard imported porcelain, the porcelain being held in place by the spun-over edge of the shell and packed with



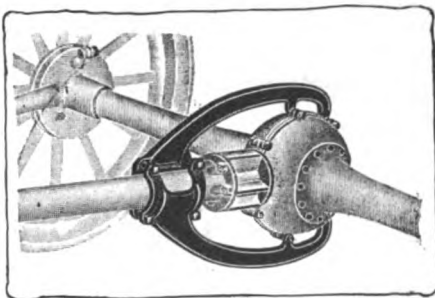
Pasha porcelain spark plug

two copper-asbestos gaskets. The shell edge exerts a springy pressure on the core. The points are finished with unusual care. No terminal screw is provided, the brass cap being designed to take a clip.

FORDESCO DRIVE SHAFT BRACE

Walter J. Forbes, sales agent, 243 Columbus avenue, Boston. PRICE, \$5.

A rear axle brace for Ford cars. It is attached without any fitting and stiffens the housing so that quieter running



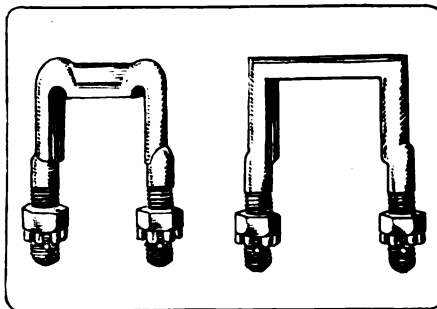
Fordesco drive shaft brace

and less wear on the axle members result.

ECCLES SPECIAL SPRING CLIPS

Richard Eccles Co., Auburn, N. Y. PRICE, Ford type, \$75 per hundred.

While special clips are made for Ford springs, clips are also made for practically all the standard cars on the market; the range of sizes provides clip equipment for any spring. The prices vary with the size, etc. Slips are made



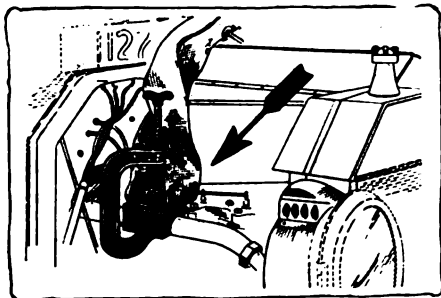
Eccles special spring clips

oval and flat, and threaded, drilled for cotter-pins and equipped with castellated nuts, two nuts being furnished with each clip. Clips are packed 25 in a box.

EXHAUST HEATED VULCANIZER

Exhaust Heater Vulcanizer Co., Altoona, Pa. PRICE, \$3, complete.

A tube vulcanizer which derives its heat from the exhaust pipe while the motor is running. Ordinarily 6 to 8 minutes is sufficient to effect a cure, it is stated. A thermometer shows when it is hot enough. Vulcanizing is done in the regular way. The device can be used with any car having a length of exposed exhaust pipe.

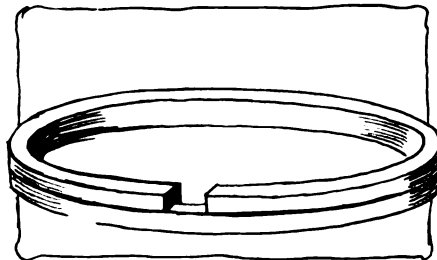


Exhaust heated vulcanizer

RANDERSON EXPANDING RING

Du Bois Machine Shop, Inc., Albany, N. Y.

The peculiarity of the Randerson piston ring is that pressure from the combustion chamber is allowed to reach its back, entering between the ring and the bottom of the piston groove. Thus,



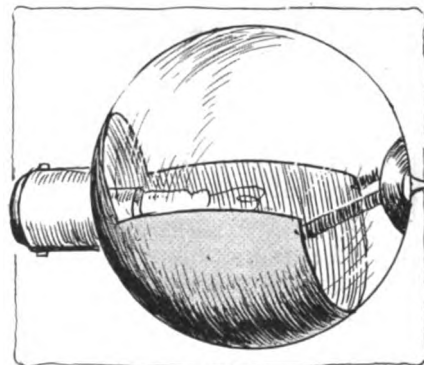
Randerson expanding ring

when an explosion occurs or when there is pressure due to compressing the mixture the ring is automatically expanded against the cylinder walls.

PERRIN NO GLARE ATTACHMENT

Asch & Co., 1779 Broadway, New York. PRICE, DEALERS, 75 cents per pair.

This device is an aluminum shell which slips on to the bulb and covers up the



Perrin no glare attachment

lower part. The shell is polished on the inside so that all light striking it is not absorbed but reflected. The beam of light is concentrated on the road and is never more than 4 feet above the ground level.

To License Georgia Dealers at \$30

SAVANNAH, GA., August 12—Under the provisions of a bill introduced in the House by Representative Garland, dealers in Georgia will be required to pay a license fee of \$30 and motor cars will be taxed from \$4 to \$10, according to horsepower. The dealers' license entitles him to as many duplicate tags as may be necessary for demonstration purposes at \$2 per car.

Are You Guilty?

Page 5



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Are You Guilty?

The SEVENTEENTH instalment of Motor
 World's Campaign for Greater Profits

IF the opinions of all the car owners in the country were put into one opinion, what would that opinion—of the garageman—be? Would it be anything like the opinion which appears on the first pages of Motor World this week?

The garageman should cater to the car owner first, last and all the time. This does not mean that prices should be so low that there is no profit in business for the garageman, but it does mean that the garage floor should not be covered with oil, grease and dirt and look like anything but a proper place for a piece of property that is worth from \$1,000 to \$5,000.

Store Your Piano in a Barn?

If you wished to store your bright and shining piano would you put in in a barn? You would not! You would select an A No. 1 warehouse. Then why expect the car owner to put his car in what is not even the equivalent of an average livery stable?

The letter on pages 5, 6 and 7 is written about only one man, but there are many garagemen whom it will fit. As a starter toward Better Business and Greater Profits, take a pencil, jot down the criticisms the writer makes and then check up YOUR garage on that basis. The question is not Are you THE guilty man? The question is Are you GUILTY OF THE CHARGE?

This man has a real grievance; he is sick of the dirty garage. He is still seeking for a CLEAN garage. The garage that is clean gets the business!

Read the Newspapers

NO matter what business a man is in he cannot afford not to read the daily newspapers. Always there is something coming up which makes a knowledge of current events desirable if not necessary.

Especially should the garageman and car dealer read the business and market reports which concern his business. If the price of a commodity is moving upward the man who sells that commodity should know it. If it is falling he should be aware of that fact.

Familiarity with financial pages is, among other things, good mental training for the business man. It tends to lead his mind more into business channels. Once the habit is acquired it is easy to continue the practice.

Local Show Dates

THE time when the local show should be held in any particular city is a question which vitally concerns dealers who do business in that city. Too often is it possible, particularly in the smaller cities, for one individual to set the show date arbitrarily, and possibly to suit his own convenience, and have all, or nearly all of the dealers accept that date without question as being best suited to their business. The fact that some other time might be productive of better business either does not enter the mind of the dealer; he has not sufficient initiative to fight against a date that he believes, or knows, is wrong; or he has not given the matter the attention it deserves.

Where the subject of the local show is taken up by a dealer's association, as is the case in a great many cities, the matter is better threshed out. Dealer members at least have an opportunity of expressing their preference and of voicing their arguments. But judging from some of the opinions which are published in this week's Motor World, even open discussion of the matter does not always bring about the desired results.

That there should be careful thought given the matter goes without saying. When the time of year approaches in which the show has been held previously, dealers should get together and thresh it out between them. If necessary, there should be a couple of real fights before the date is definitely decided upon. Everyone's opinion should be sought and every expression of opinion should be given due consideration. It is only by such means that the consensus of opinion can be obtained and the show held at a time of year when in the experience of all concerned it will be productive of the greatest amount of business and do the greatest amount of good.

Lower Air Temperature From Power Tire Pump

Test Conducted for Stewart Company
Shows Air from Hand Pump to Be
Hotter Than from Power Pump
—Tests by Armour Institute

CHICAGO, August 12—In order to prove its contention that the statements contained in a paper presented by Paul W. Litchfield at the recent meeting of the Society of Automobile Engineers are not accurate as regards the air temperature due to the heat imparted by power pumps, the Stewart-Warner Speedometer Corp. has had a series of tests made by Professor Roesch at the Armour Institute of Technology, Chicago.

The tests which were made on the Stewart motor driven pump show that the air enters the tire at virtually the same temperature as that of the outside, and furthermore, the fact is brought out that the air from a hand pump is from 30 to 40 degrees higher in temperature than the outside air. The tests were made with the Stewart pump inflating a 37 x 5 tire. The temperature of the air was taken at three points simultaneously.

STEWART TIRE PUMP TEST

Room temperature.....71 deg. Fahr.
Average r. p. m. of pump.....73

Line	Temp. of air in pump	Temp. of air passing cooling coil	Temp. of air entering tire
pressure, lb. per sq. in. gage			
0.00	71	71	71.0
30.25	110	76	72.0
41.00	129	84	71.5
48.00	152	88	71.0
58.25	168	94	70.5
64.00	188	98	70.0
70.00	202	103	69.5
76.00	214	107	70.0
83.00	225	110	70.0
88.00	232	114	70.0
94.00	240	116	69.5
101.00	248	117	69.0

One of the remarkable findings of this test was that the air entered the tire 2 degrees cooler than the outside air.

FOOT PUMP TEST

Hose—24 inches of rubber hose regularly supplied with pump to gage.

Room temperature—72 deg. Fahr.

Line	Temperature (degrees Fahr.) of air as it enters pump
pressure, lb. per sq. in. gage	
0.00	72
25.00	74
28.50	76
36.00	78
47.00	80
55.00	82
60.25	85
66.00	87
74.00	89
79.00	92
88.00	96
93.00	99
101.00	103

The total number of strokes required with the hand pump to reach the pressure of 104 pounds was 598. It will be noted Mr. Litchfield said that, with a hand pump, there would be no particular increase in temperature, because a hand pump works so slowly. This test showed a rise of 31 degrees hotter than the outside air, due, of course, to the short length of hose connection that is furnished with hand pumps.

Budlong Leaves Packard Company

NEW YORK, August 12—Milton J. Budlong, president of the Packard Mo-



E. A. GILMORE
White, Boston

District Representatives

XX

This is No. 20 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

E. A. Gilmore is district representative for the White Co. in Boston. He first entered the industry in 1904 as a retail salesman for the Boston branch of the Thos. B. Jeffery Co. A year later he was transferred to the Jeffery factory and during the following year traveled Ohio, Indiana and Michigan as district representative, being recalled to Boston then to become manager of the Boston branch. A year later he became identified with the Knox company, covering territory west of Chicago, and in 1907 he joined the White Co. Since then he has held his present position and covers New England and the Maritime provinces.

tor Car Co. of New York, Chicago and Philadelphia, has resigned to become vice-president of the importing and exporting firm of Gaston, Williams & Wigmore, Inc., 140 Broadway, New York. He has been with the Packard company 7½ years.

He will be succeeded as president of the Packard Motor Car Co. of New York by E. B. Jackson, manager of the Philadelphia company, who will retain the general supervision of that organization. H. M. Allison, who for years has been manager of the Packard Motor Car Co. of Chicago, will follow Mr. Budlong as its president.

Mr. Budlong entered the automobile industry about 12 years ago, when he became secretary and treasurer of the Siemens & Halske Electric Co. of Chicago, which was then controlled by the Electric Vehicle Co., Hartford, Conn. He later became president of the Hartford company, where he remained about 3½ years. During the Selden litigation, Mr. Budlong became general manager of the Association of Licensed Automobile Manufacturers, remaining in this capacity for about 8 months. In 1908 he joined the Packard company.

Haynes Not To Move From Kokomo

KOKOMO, IND., August 12—General Manager Sieberling of the Haynes Automobile Co. emphatically denies the rumor that his company will move to Lackawanna, N. Y. Rumors to this effect were circulated around Buffalo some weeks ago.

Dealer Has Profit Sharing Plan

JACKSON, August 12—The Central Automobile & Supply Co., Ford dealer here, has started a profit-sharing plan among its employes for the fiscal year which started August 2. A certain percentage of the total profit on any sale, whether it concerns automobiles, accessories or parts, will be credited to the

employes and will be divided among them at the end of the fiscal year. At the present time there are 23 men working for the company.

Stampings from Clayton & Lambert

DETROIT, August 13—The Clayton & Lambert Mfg. Co. has added a new sheet metal stamping department. The company will manufacture fenders, hoods, tanks, and all other sheet metal parts except radiators. They will also manufacture light stampings and do enameling.

Overland's July Shipment 10,000

TOLEDO, August 13—Shipments by the Willys-Overland in July were a few more than 10,000 cars. For 1915, up to and including August 7, shipments totaled 50,324 cars for the full 12 months of 1914. Present shipments average in excess of 450 cars daily, or at the rate of 12,000 for the current month. The factory schedule calls for 15,000 cars a month by October.

Delaware Registrations Increase

DOVER, DEL., August 13—The State of Delaware received 277 new registrations during the month of July, bringing the total number of cars in that state up to 4,412, there having been 4,135 cars registered up to July 1. The following list gives the name of the car and the number registered during the month of July:

Ford, 68; Overland, 21; Maxwell, 17; Studebaker, 16; Buick, 13; Hudson, 9; Cadillac, 7; Pierce-Arrow, 7; Paige, 5; Oldsmobile, 5; Packard, 4; Mitchell, 4.

M. & S. Gear Moves Offices to Detroit

DETROIT, August 9—The executive offices of the M. & S. Gear Co. have moved from Kansas City to Detroit and are at 1036-42 David Whitney building. The company's factories remain in Syracuse, N. Y.

The RETAIL NEWS

MOUNTAIN STATES

The Automobile Sales Corporation, 1512-16 Broadway, Denver, has taken the Franklin agency, formerly held by the Colorado Motor Car Co., which also handles the Reo and R. & L.

The Service Tire & Oil Co., Salt Lake City, has opened up with D. M. Shaw as manager.

CANADA

Sayer & Ford, Vancouver, distributors of the Dunlop tire, have enlarged their premises by taking a store next door, formerly occupied by the B. & B. Automobile Co.

N. L. Tullis, proprietor of the Wood-Milne Co., Vancouver, has moved from 851 Pender street to larger quarters on the same thoroughfare near Granville street.

Jameson & Rolfe, Courtney and Gordon streets, Victoria, B. C., have opened salesrooms for the Packard.

Pearce & Lakser, Montreal, have opened an auction store for the weekly sale of cars.

SOUTHWEST

Tappan's Garage, Helena, Ark., recently destroyed by fire with a loss of \$10,000, will be rebuilt.

The F. G. Smart Auto Co., Pine Bluff, Ark., has been incorporated at \$15,000 by Ethel S. Smart, J. C. Cone and W. C. Hudson.

J. F. McGuistion, Newport, Ark., has opened a garage at Front and Pine streets.

The St. Francis Motor Co., Forrest City, Ark., has been awarded additional territory, embracing Lee and Monroe counties. Louis McDaniel and Scott Kirkpatrick are the proprietors.

The Equipment Tire Co., Kansas City, has been moved by Robbins Bros., proprietors, from 117 East Seventh street to 930 Kansas avenue. They have added a vulcanizing department; also they will now deliver gasoline without delivery charge within five miles and render tire service within ten miles.

P. C. Maurice, Bonne Terre, Mo., has opened a tire repairshop.

The Dorris Motor Co. of Kansas City has removed to larger quarters at 1804 Grand avenue.

The Bart S. Adams Tire Co., St. Louis, has leased quarters from the Ganahl Motor Car Co. at Walton and Washington avenues. The tire company has been on Lindell boulevard. The rent is \$1,600 a year for five years.

The Frye Motor Car Co., 3333 Locust street, St. Louis, has taken the Saxon agency, heretofore held by the Saxon-Park Automobile Co., 5201 Delmar avenue.

Sam Herrick & Son, Springfield, Mo., has completed an addition to its garage at 529-31 College street. The addition gives the company 18,000 feet of floor and extends the property to cover a city block. The company handles the Hudson, Regal and Grant and accessories and tires.

The Velie Motor Co. of Kansas City has been formed by E. D. Davenport,

H. C. Rings, H. H. Hutchinson and C. L. Zeller and will sell the Velie at 1616 McGee street. All the members of the company have been engaged in the trade in Kansas City for several years.

The St. Louis Stearns Auto Co., 3030 Locust street, has been reorganized as the Stearns-Knight Auto Co. Dell D. Brownback remains president and T. A. Conrad, a new member, is secretary and treasurer.

The United Sales Co., St. Louis, has been incorporated at \$20,000 by Edgar C. Wiggemann, F. C. D. Dobson and George and J. Breaker, to conduct a tire business.

Sealy Hutchings, Galveston, will erect a \$5,000 garage.

The Dallas Buick Co., Dallas, has been formed to take over the retail business of the Buick branch. Both businesses will remain at 2105 Commerce street. The proprietors of the new company are R. C. Langley, a branch employee for seven years, and W. E. Hipp, of Waxahatchie.

PACIFIC COAST

Dahlen Bros., Walla Walla, Wash., plan to erect a garage.

The W. J. Ball Motors Co., Spokane, has been formed and will handle the Studebaker in the Inland Empire. It has a garage and sales rooms at W1116-18 Sprague avenue.

Newton Foster, formerly of Boston, has purchased an interest in the NePage, McKenny Automobile Co., Seattle, and the name has been changed to Newton Foster Co. The company will continue at 1512-22 Eighth avenue as western Washington distributor of the Paige and National.

Fred Perez and Roy Hannegan, Chino, Cal., have opened a garage and will sell the Overland. To secure a name for their garage they have offered \$5 for the best one submitted.

Theodore Crossley, Riverside, Cal., Overland dealer, will erect a \$20,000 building on property he has purchased at 11th and Main streets.

Potter & McCormick, Pomona, Cal., Chandler dealer, has just moved into a new building on South Thomas street. This garage cost \$4,000 and is one of the best-lighted and has one of the most attractive salesrooms in the city. The proprietors are in the market for a less-than-\$1,000 agency.

A. G. Minzer, Porterville, Cal., proprietor of the Independent Garage, Main street, has bought the Gardner Vulcanizing Works and the equipment has been moved to a newly constructed building at Main and Olive streets.

J. W. Stephens, Porterville, Cal., has secured the agency for the Dodge and has leased the White building at Putnam and Main streets.

L. E. Dorsey, Porterville, Cal., has just completed an attractive building at Oak and Main streets and, in addition to his line of accessories, will represent the Briscoe.

M. S. Ough will handle the Metz in Porterville, Cal., territory.

C. C. Kratzner, Coalinga, Cal., has

withdrawn from the firm of Martin, Heinzen & Kratzer, of the Martin Garage, and established himself on Eighth and E streets as proprietor of the Kratzer Service Station. Kratzer was one of the first men in the automobile industry in this field and he is now handling the Buick, Chevrolet and Winton lines at his garage. He also carries parts, supplies and accessories.

The Van Nuys Garage, Van Nuys, Cal., has installed a repairshop.

The Central Garage, Porterville, Cal., has moved from Second street into the newly erected Smith building. The proprietors, Eckard and Niles, have added the Paige, Overland and Ford.

J. N. Ball, El Monte, Cal., has opened a gasoline and oil supply station at Main and Tyler streets.

The Mission Garage, El Monte, Cal., operated by A. C. Rosebrough, is now representing the Overland in this district. Rosebrough also has the agency for Fisk tires and is putting in a stock of supplies and accessories.

Corpe Bros., El Monte, Cal., representing the Ford, have moved into a large garage building on Granada street, where they have installed a larger accessory stock. The El Monte Ford dealers have disposed of more than 50 cars during the past four months.

E. L. Stanfield, Barstow, Cal., proprietor of the Central Garage, has taken the Studebaker agency in this section and will operate a service station under supervision of the southern California district service manager for the Studebaker Corp. Stanfield is now putting in a line of accessories and supplies.

Parker Barrett, Bakersfield, Cal., Overland dealer, has just moved into a recently completed garage building, 66 x 116. It presents a striking appearance to tourists coming into Bakersfield over the new state highway.

SOUTH

The Overland Birmingham Co., Birmingham, has been formed by H. M. Bailey, president, and his brother, R. A. Bailey, Jr., secretary and treasurer. They will handle the Overland. H. M. Bailey formerly was a dealer in Sheffield, where he began 18 years ago with the Locomobile steamer.

L. D. Baer, Owensboro, Ky., is erecting a \$5,000 garage at 109-11 West Fourth street. He will handle the Ford, sell accessories and operate a garage and repairshop.

Blane & Smith, Cadiz, Ky., are equipping a garage and repairshop.

The Lexington Cadillac Co. has been formed in Lexington, Ky., to take over the Cadillac branch that has been operated there by the Kentucky Automobile Co., Louisville. The members of the new company are W. F. McDonald and C. S. Brown.

The Lee Tire Sales Co. has been incorporated in Louisville at \$10,000 by William C. Stiglitz, Louis Stiglitz and Herbert Rudolph.

The Glen Tire Co. has opened an office at 331 East Broadway, Louisville. J. P. Glenn is manager.

The Foreman Automobile Co., Paducah, Ky., plans to erect a two-story garage, of blue brick and black mortar. It will cost \$35,000, will have its own power and heating plant and will have a large area of plate glass windows. The company handles the Ford and accessories.

B. F. Siler and J. E. Jones, Jellico, Tex., are equipping a garage and repair-shop.

The Memphis Auto Supply Co., Memphis, may be wound up. Application for a receiver for this purpose has been made by C. A. Sands and little opposition has developed to the move.

NORTHWEST

The Osborn Garage Co., Burlington, Ia., has purchased the Murray Garage, Central avenue and Osborn street. It has been moved from 804 Osborn street, the old location, to the Murray location by the proprietors, J. F. Skerick and E. Lange.

Thomas Mok, Fulton, Ia., has sold his garage to E. C. Parker and John Flikkema. They took immediate possession and will continue the garage and supply business.

Floyd Zaring, Oskaloosa, Ia., has purchased the interest of Clifford Johnson in the Zaring-Johnson Auto Co., Second street and A avenue. The business includes garaging, repairing and the agencies for the National, Cole and Apperson.

Homer Stanley, Oskaloosa, Ia., has purchased the interest of his partner, Nate M. Corey, in the Central Garage & Supply Co., 213-15 South First street. The company operates a garage and handles the Velie.

The Cole Motor Sales Co., 310 Douglas street, Sioux City, Ia., of which C. O. Donaghy is president, has been made a Maxwell distributor in 12 counties.

E. W. Henderson has taken over the Speiser Garage, Fessenden, N. D.

Steven Tenvoorde has begun an addition to the Tenvoorde Garage, St. Cloud, Minn. It will double the floor space.

Henry Morgen and Alfred Dahl, Willow City, N. D., have formed a partnership and have taken over the Badke & Hussey Garage.

Archie Aitchison and T. B. Olson will conduct a garage in Montevideo, Minn., in the former Daily American building, as Aitchison & Olson.

F. W. Turner, Dickinson, N. D., has completed a \$35,000 garage and machine shop, the largest in the state west of Fargo.

The Yankton Auto & Supply Co., Yankton, S. D., has about completed a new garage.

The Black Duck Auto Co., Black Duck, Minn., has opened a garage.

Otto Manteuffel, Waconia, Minn., has bought the interest of J. P. Krause in the Northwood Auto Co. The firm will be known as Pieper & Manteuffel.

George Mesberg, Virginia, Minn., is remodeling a garage at the rear of his store. He will sell the Hudson.

Skillman & Afton, Pine Island, Minn., have leased a building and will open a Ford agency. They have bought a lot and expect to build a garage.

J. S. Christison, St. Paul service contractor for mails in the Twin Cities, is constructing a garage at Wentworth street and St. Anthony avenue, Midway, in which to store 28 cars. The building is 80 x 88, one story and brick.

The Moore Transfer Co., 127 Eleventh street, St. Paul, will occupy a new \$65,000 garage at Temperance and Grove streets, September 15.

W. L. Harris, of the W. L. Harris Realty Co., Minneapolis, is erecting a

garage at 912-914 Third avenue South, to cost \$15,000. It is one-story and brick.

Simon Kruse, Hotel Radisson Co., Minneapolis, is erecting a garage at at Second avenue South and Seventh street. It will be two stories.

The Mutual Auto Co., 313-319 West First street, Duluth, will occupy a new garage October 1 at Superior street and Third avenue East. The garage will have 5,000 feet of space more than the old quarters. President E. J. Filiatrault expects to have a Ford assembling plant in 12 months.

The Kelley Motor & Supply Co., 228 East Superior street, Duluth, has added service stations for the Bosch magneto, Stewart-Warner speedometers and Westinghouse systems.

The Hebb Auto Co. has been formed in Lincoln, Neb., by A. G. Hebb, who has held the Ford agency for several years, and F. R. Hussong, formerly manager of a furniture department in a Lincoln store. A two-story, white cement finish garage and sales building, 80 x 150, is being erected for the new company at 12th and Q streets. It will have an unusually large window area.

T. J. Kelly, Lincoln, Neb., has opened a garage and salesrooms for the Enger at 322 South 11th street. He formerly was in the grain business.

F. W. Titler, Lincoln, Neb., has opened a new repairshop styled Lincoln Welding Co. It is at 241 South 10th street.

George Liesveld, Hickman, Neb., has purchased an interest in the Roca Auto Co. It handles the Overland.

The Wertz Automobile Co., 11th and L streets, Lincoln, has added the Cole to its Studebaker distribution. W. W. Wertz is president.

EAST

The Stutz Motor Car Co. of New York, eastern distributor, has acquired New Jersey as additional territory; a branch has been opened at 372-76 Central avenue, Newark.

The A. & S. Motors Co., West Plainfield, N. J., has taken possession of a new service building, 50 x 100, at 337-39 West Front street.

Cowles Tolman, New Haven, now at 677 State street, will erect a 3-story brick and steel garage, 60 x 75, at State and Trumbull streets. He handles the Franklin.

Gutzon and Borghun, Stamford, Conn., will build a one-story, brick garage, 60 x 120.

The Thread City Garage, Willimantic, Conn., has been incorporated at \$25,000 by F. D. Jordan, William P. Jordan and George E. Hinman. The Jordans formerly sold the Ford, now handled direct by the Elmer Automobile Co., Hartford.

Louis Engel, Jr. has purchased the Buffalo Oldsmobile branch. He will conduct it as a distributing agency at the branch headquarters, 1023-25 Main street.

The Reo Sales Co., Syracuse, is about to move from 239 West Genesee street, an old motor row, to 512 East Genesee street, one of the new rows.

The Service Boat & Engine Co., Syracuse, which recently acquired the Interstate distribution and which has been located in the West End, has opened salesrooms at 500 East Genesee street.

The La France Garage Co., Elmira, N. Y., has opened a branch in Williamsport, Pa., a newly acquired territory,

for the sale of the Studebaker. Another branch is maintained in Penn Yan.

Arthur Morris, Syracuse, has been made Scripps-Booth distributor. Previously he was connected with the Chalmers and Chevrolet agencies.

J. G. Duncan, Jr., Harrisburg, Pa., has opened a service station for the Willard battery at 11 North River street.

F. C. Ditmars, Philadelphia, has joined the Keystone Motor Car Co., Harrisburg, as a Chalmers territorial man. Formerly he was at the Chalmers factory.

Paul D. Messner, 1118 James street, Harrisburg, Pa., Stanley dealer, has been made a Sphinx distributor.

W. W. Finch, Wilkes-Barre, Pa., has been granted permission to erect a brick garage on South Main street near Ash.

The Central Motor Car Co., Chestnut and Pearl streets, Reading, Pa., has added the Maxwell, still retaining the Reo.

C. L. Burrows & Co. has been formed in Washington, D. C., to handle the Grant; salesrooms and a service station have been opened at 1612 14th street northwest. W. J. McLean, for three years with the Zell Motor Car Co., is manager.

The Gettysburg Motor Garage, Gettysburg, Pa., George F. Eberhart, proprietor, has purchased property at South Washington and Chambersburg streets and will erect a brick and terra cotta garage, 57 x 155, and part one- and part two-story. It will store 150 cars, will have two entrances and will include a modern salesroom.

O. C. Tritt and T. C. Scouller, Newville, Pa., have formed a partnership and taken over the Newville Garage, heretofore operated by Blosser & McElwain.

Harry A. Butterweck, Allentown, Pa., has purchased the Kramer stables on Maple street and will erect a two-story garage. It will cost about \$20,000 and will open September 15.

The Washington Auto Co., Washington, Pa., has moved into the McAlister Garage, Wheeling and College streets. The company handles the Hudson, Oldsmobile, Studebaker and Scripps-Booth. D. H. Swart is the proprietor.

Rossell Bros., Warren, Pa., are about to build a 75-car garage on a 50 x 100-foot lot on Pennsylvania avenue. They handle the Ford and Overland.

The Boston Stutz agency, distributing in Maine, New Hampshire, Vermont and Massachusetts, has been taken by a new company headed by Edward Becker. He was for some time in business with Freeman and Chace, who handled the car for several years. He has located at 911 Boylston street, Boston, a few doors west of the former Stutz location.

The Yoerk Tire & Rubber Co., Holyoke, Mass., will erect a garage on Chestnut street, to cost \$18,000.

George C. Smith's Garage, South Londonderry, Vt., was destroyed by fire. Loss, \$15,000.

W. S. Jameson, Boston, has opened a New England distributing agency for the

Are You Guilty?

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Rauch & Lang at 618 Commonwealth avenue. For several years he was with the Peerless agency.

The Auto Outing Co., 21 East North avenue, Baltimore, will erect a garage at Lovegrove and Adams streets. It handles the Buick.

William V. Wolfe and J. Harry Grove, Frederick, Md., are planning to build a large garage on North Market street, Frederick. The building's capacity will be 100 cars.

The Wilson Motor Co., 1014 Morton street, Baltimore, will move to 605 West North avenue. T. W. Wilson, Jr., is head of the firm. The Maxwell and Mitchell are handled.

The Beam Motor Car Co., Cathedral and Chase streets, Baltimore, has opened a service and sales station for the Philadelphia battery.

The Tire Mart, 1419 North Charles street, Baltimore, has been opened by F. Morrison Boyd, some time with the Lambert Automobile Co., and William T. Kuhns, Baltimore representative of the Knight tire.

F. W. Wright, Inc., Auburn and Monarch dealer, has opened a salesroom at 1692 Broadway, New York.

The Chalmers Motor Co., Newark, N. J., is to build a new sales and service station on Broad street.

Charles S. Smith & Co., 302 North Broad street, Philadelphia, dealer in hardware and supplies, has been sold at auction by a creditors committee.

The Kelly-Springfield Tire Co., 208 North Broad street, Philadelphia, will move into its large double building, recently completed, at 257-59 North Broad street, September 1.

The Lexington Sales Co., Inc., Philadelphia, since January 1 at Broad and Race streets, is now occupying new quarters at 150 North Broad street. The agency is in charge of H. C. Henderson, formerly Philadelphia sales manager for the F. B. Stearns Co. It is 25 x 150 and has hollow tile walls.

MIDDLE WEST

Park M. Reiser, New Philadelphia, O., has opened a garage and repairshop on South Broadway in the building recently vacated by Roy O. Finger's Central Garage. Reiser has the White agency and operates a motor livery. Finger has moved into a new building on West High street, where, with F. S. Hertzog, he will operate the Central Buick Agency.

Carl Bros., Ashland, O., plan to build a garage on South Main street.

E. B. Price, Youngstown, O., National dealer, has leased the salesrooms and garage of the Thomas Motor Car Co., on Elm street. Edwin J. Thomas, of Thomas Bros., proprietors of the Thomas company, will continue to distribute the Inter-State and Kline.

George A. Hasson & Co., 75 North Fourth street, Columbus, O., has opened up as distributor of Chester and Travelers tires. G. A. Arner is manager and G. H. Fisher district sales manager.

The Universal Motor Car Co., Portsmouth, O., has been formed and will handle the Ford.

The H. & G. Motor Co., Cleveland, has taken possession of new quarters at 1844 Euclid avenue. The company handles the Lozier and Regal, but with its enlarged space plans to add the Empire.

The Oakland Sales Co. has been

formed in Portsmouth, O., to handle the Oakland.

E. B. Roemer, Zanesville, O., will remodel a building on North Third street for use as a garage. The work will cost \$1,600 and the garage will be ready September 15.

The Forest City Garage, 110th street and Superior avenue, Cleveland, has opened a downtown branch at 1824 Euclid avenue.

The Ohio Buick Co., Cleveland, now at 1730-38 Euclid avenue, is to have a new home. A permit has been granted for a five-story, concrete and steel building, 152 x 102, at 1903 East 19th street, to cost \$125,000.

The City Auto Tire & Supply Co., Cleveland, has purchased a lot, 40 feet on Chester avenue and 144 feet on East 23rd street, whereon it will erect a \$15,000 building. The structure will include reading and club rooms and shower baths for the use of town and transient customers.

L. S. Pierce, Youngstown, O., has opened a tire reclaiming shop on Market street. He has worked in Akron tire factories for the last five years.

A. W. Smith, Youngstown, O., has taken the Oakland agency and will erect a service station and salesrooms, 50 x 50, on Glenwood avenue near Warren street.

R. S. Schoenrock, Chicago, will erect a one-story garage, to cost \$5,000, at 4052 West North avenue.

The United States Auto Supply Co., Chicago, plans to erect a one-story repairshop at 3847-49 South Wabash avenue. The estimated cost is \$6,000.

A. B. Towney, Chicago, has secured plans for a one-story garage to cost \$4,000. He will build at 6840-42 Stony Island avenue.

Andrews & Beckington, Belvidere, Ill., plan to build a modern garage and salesrooms on Logan avenue on the site of the Woods livery barns.

O. O. Frink, Champaign, Ill., is about to open a garage at 71 East Chester street.

Walter Fisher, formerly manager of the Cadillac agency in Chicago and for the past six months associated with the Cadillac agency in Bloomington, has resigned to become dealer in the same car in Terre Haute, Ind.

The Bloomington Motor Co., organized in Bloomington, Ill., a year ago by J. C. Blair, of Toledo, O., to handle the Ford car in McLean county, has been succeeded by the Lockwood, Mandel & Schwarzman Motor Co., with Oscar Mandel, president; A. Schwarzman, vice-president, and J. E. Lockwood, secretary and general manager. The new company will erect a new garage to cost \$25,000. The territory is to be enlarged to include Woodford county. McLean county is the leading consumer of Ford cars in Illinois outside of Chicago.

Henry F. Vogt, treasurer of the American Automobile Co., 187 Wisconsin street, Milwaukee, state agent for the Pierce-Arrow, is a principal in the incorporation of the Pullman Automobile Co. of Milwaukee, which will handle the Pullman in southern and eastern Wisconsin and the counties of Stephenson and Winnebago in Illinois. Offices and showrooms are being established at 134-136 Oneida street. The Pullman has not been represented in Milwaukee for several years. R. C. Wrege and A. H. Barnickel are associated with Vogt.

The Schreiber-Boorse Car Co., National and Chandler dealer in Milwaukee, located at 180 Fifth street for nearly 10 years, will soon move to the east side, to the new motor row. A two-story garage will be erected on Oneida street, near Jackson street, of steel and concrete slab construction, 68 x 120.

The S. & S. Motor Car Co. has been formed in Green Bay, Wis., by R. C. Smith and C. W. Straubel. They will handle the Oakland.

Harry Dahl, Westby, Wis., has succeeded Peter Hofweber & Sons as the Ford dealer in La Crosse. He will establish subagencies in Holmen, Bangor, West Salem and Stoddard.

The Sheboygan Auto & Supply Co., Sheboygan, Wis., has purchased the Ford agency from the Gillette Motor Co. E. E. Gillette, the proprietor of the latter company, will handle Ford sales for the Sheboygan company and will continue his motor livery business.

J. J. Culton, Edgerton, Wis., has sold his garage business to Theodore Tellefson and his son, Chester, of Rockdale. The latter are Ford dealers.

Emil Janeck and Frank Tiedeman, Madison, Wis., for some time connected with the Hokanson Auto Repair Shop, 16-20 Doty street, have purchased the Hokanson repair business and will conduct it as Janeck & Tiedeman. They will remain in the Hokanson building.

F. G. Lafer, Detroit, will erect a one-story garage at 3059-62 West Grand boulevard, to cost \$3,500.

Eight Battle Creek dealers will have quarters in a new building that is to be erected at McCamly and Van Buren streets by W. D. Farley, Thomas H. Butcher, Howard L. Kneeland and B. J. Onen. It will be two-story, of white tile, 150 x 132 feet, and will cost between \$75,000 and \$100,000.

Bernard Byers, Houghton, Mich., plans to build a two-story garage, 50 x 80, in Baraga, on Superior street. The name will be Peninsula Garage & Supply Co.

Watson & Squier, Kalamazoo, have opened a garage at 115 South Rose street. Herman Watson is the manager.

Glenn Webster, White Cloud, Mich., has purchased an interest in the Mudget & Wantz garage, which now is known as the White Cloud Garage. T. B. Wantz has retired from the business.

M. E. Fitzgerald, Richmond, Mich., who was a Ford salesman, has been appointed Ford dealer.

The Fremont Auto Co. has been organized in Fremont, Mich., as the result of a transaction whereby the Evans-Tinney Co. bought out the garage business of Harry Meeuenberg, also that of Fred Hall and Daniel Smith. The new concern will make some alterations in the Auditorium annex, which it operates as a garage, and will carry accessories.

The Service Tire Shop has been opened at 109 North Rose street, Kalamazoo, by Ralph Beebe.

The Globe Garage, Kalamazoo, has been leased by the Ford Motor Co. and has been made a Ford agency. Richard E. Fair, who was formerly with the Detroit Ford branch, will be in charge.

The Standard Auto Co. has been organized in Port Huron, Mich., to become distributor of the Paterson in eastern Michigan. Dr. George H. Brown is president; C. Russell McIlwain is general manager.

Facts About Cars

Advantages of Two-Point Ignition

It is a question whether double ignition is worth while on a touring car; evidently not, for few manufacturers of even the high-priced cars use it. True, it gives more power especially at high speeds, but at the motor speeds ordinarily employed with high gear very little difference in the power output is noticeable. When the motor is speeded up to near its limit, as would be the case when running on second or low, there is an increase in power, but most cars with a single set of plugs have sufficient power on these gears. If an increase in maximum speed is desired, double ignition will give it, but this seems to be the only great advantage in having two sets of plugs on a touring car. The difference between one- and two-point ignition except at extreme engine speeds is that with the latter the spark-lever does not need to be advanced as far to obtain a given result as with the former.

If two-point ignition is desired the ideal method is to use a magneto designed for the purpose.

Theoretically, there are several objections to operating two plugs from one distributor segment. If two ordinary plugs are supplied from a branch connection on a single wire running from the distributor segment, there is difficulty in obtaining the same quality spark at both plugs. The points must be exactly the same distance apart or one plug will do all the work, and thus the advantage of the double arrangement is lost.

The other method is to connect the two plugs in series so that all the current flows through each plug. This requires that one plug be insulated from the motor so that the current can pass through it and then to the other plug. The effect of placing two plugs in series is to reduce the amount of the current and therefore the size of the spark, and at low speeds missing is likely to occur unless the spark-plug points are very near together or the magneto is very powerful. One plug offers a certain amount of resistance to the passage of current, and two plugs in series offer twice this resistance with the result that the current is halved. At very low speeds the voltage generated by the magneto may not be sufficient to overcome the doubled resistance and the spark may fail to occur.

Meaning of Per Cent Rise

Per cent when used as a measure of the steepness of a grade means the vertical rise in feet for a given horizontal distance.

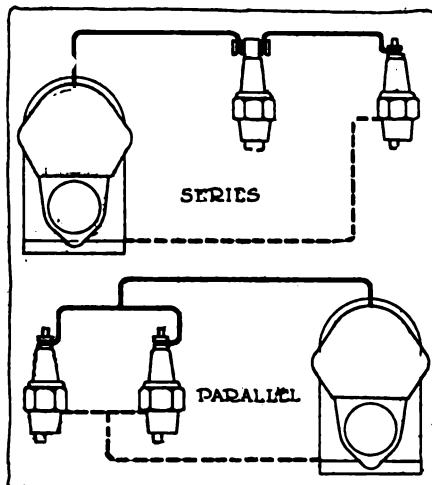


Fig. 1—Upper—Series arrangement. Lower—Parallel arrangement

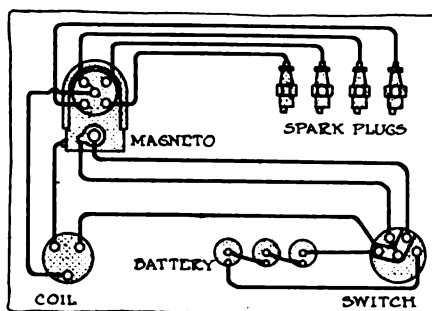


Fig. 2—Diagram of 1912 Abbott-Detroit wiring

Thus a rise of 5 feet in 100 would be a 5 per cent grade; a rise in 13 feet in 100, a 13 per cent

grade, while an ascent of 20 feet in 200 would be a 10 per cent grade. To obtain the percentage the vertical rise is merely divided by the horizontal distance.

Editor Motor World:

I would like to know if you can give me a diagram for the proper wiring of a 1912 Abbott Detroit Model B 1113. This car has a Splitdorf magneto and Pfanstiehl coil, non-vibrating, with four binding posts.

Helena, Mont.

J. E. Walker.

The accompanying diagram shows the proper wiring for the magneto, coils, plugs, switch and the dry battery which furnishes an alternative supply of electrical energy.

Chart for Finding Car Speed

A chart for determining car speed when the motor r. p. m. gear ratio and tire size are known is shown in Fig. 3. The heavy line indicates the method of using the chart. In this case it is assumed that the motor speed is 1,000 r. p. m., the tire size 30 inches, and the gear ratio 4 to 1. Starting at the 1,000 r. p. m. line, proceed to the left until the 30-inch diagonal is reached, then move upward until the 4 to 1 diagonal is intersected, and then horizontally to the left where the speed will be found to be 22 miles per hour. The chart may also be used to determine the speed of the motor, the gear ratio, or the tire size when the other three quantities are known.

To Find the Piston Speed

Revolutions per minute, times stroke in inches, times 2, divide by 12, gives piston speed in feet per minute.

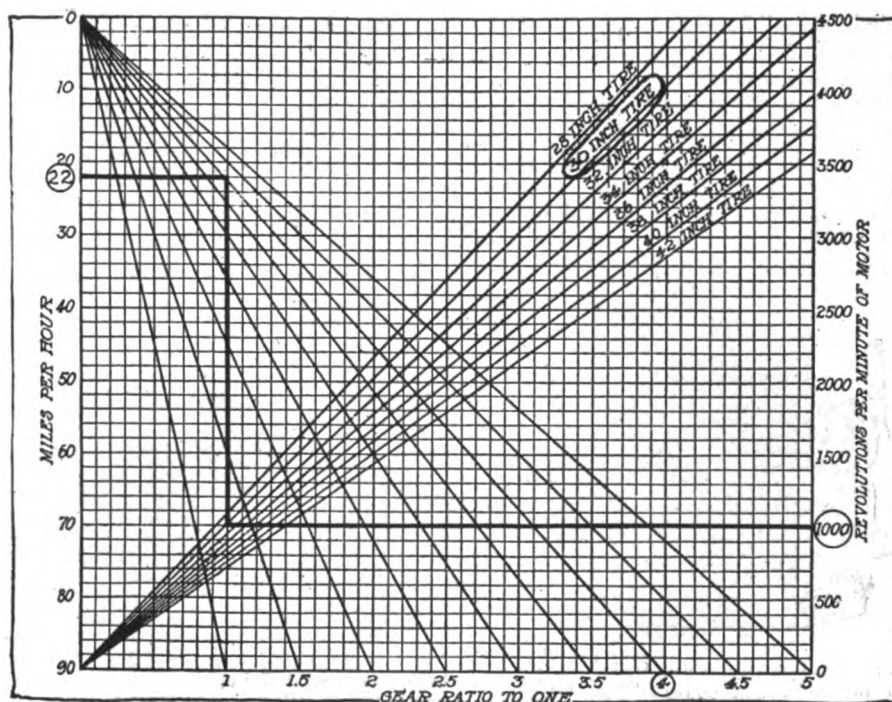


Fig. 3—How to find speed of car when speed of motor, gear ratio, and tire size are given

Two Allen Models Listing at \$795

**Chassis Larger in Nearly Every Respect Than
Predecessor—Bore Increased, Wheel-
base Longer**

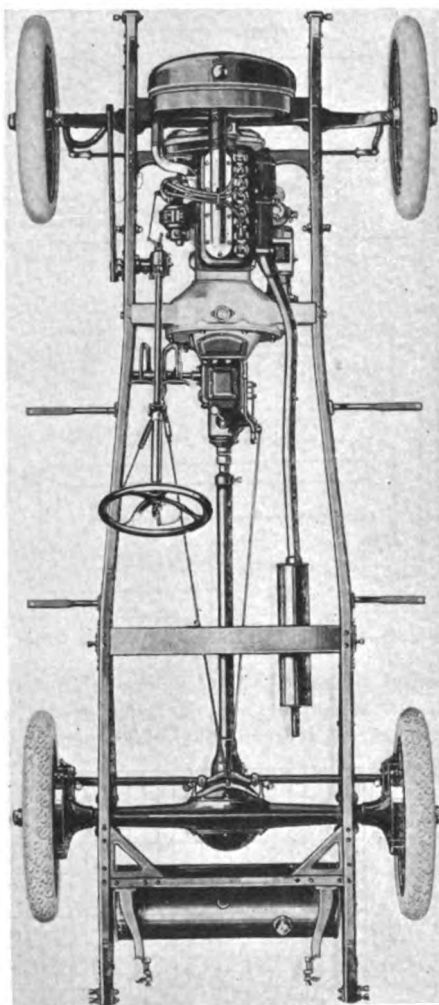
TWO models on a single chassis will make up the Allen line for the 1916 season. These are models 32 and 37 and are a roadster and a touring car, both selling for \$795. Before this season the Allen company has been manufacturing five models and the decision to change to one model is in line with the policy of concentration which is the tendency during the past few seasons.

The new car is larger in practically every respect than it was a year ago. The motor has $\frac{1}{8}$ inch more bore, the dimensions now being $3\frac{3}{4} \times 5$, and the wheelbase is longer by 2 inches, the length now being 112 inches. The rear axle is a floating design and in the exterior appearance of the car there has been considerable alteration due to the addition of a rounded radiator, a built-in windshield and a moulded line body.

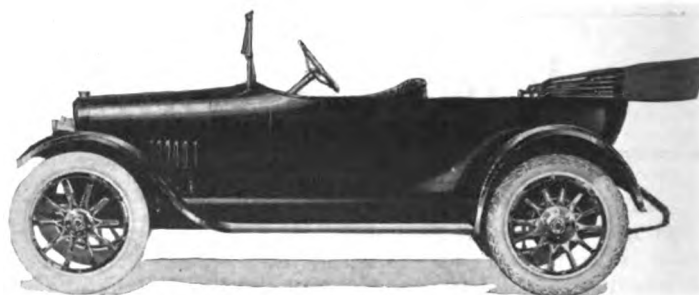
The doors are 2 inches wider, with concealed hinges, and the tonneau is roomier, due to the increased wheelbase which has been entirely utilized in giving more room to the passengers. The upholstery is easier sprung than last year, having better padding and higher grade material. A one-man top is now used and on the instrument board has been added an electric light. Another improvement is the location of the electric signal button at the top of the steering column. The front compartment is also roomier.

The motor is made exclusively for the Allen company and has its four cylinders in a block. It is of conventional L-head design with the valves enclosed. It is cooled by the thermo-siphon system, which operates in conjunction with a tubular radiator having a rounded

shell. Lubrication is by a combination pressure and splash system and starting, lighting and ignition is supplied by a



Simplicity marks the Allen chassis



Standard Allen touring model which sells for \$795

Westinghouse two-unit outfit. One of the innovations for this season is the introduction of Stewart vacuum feed.

A cone clutch faced with leather having a diameter of $13\frac{3}{4}$ inches and a face width of $2\frac{3}{8}$ inches takes the drive from the motor and delivers through a three-speed selective gear to a floating axle of bevel type having a 4 to 1 ratio. The drive is through a single universal joint and the rear axle is carried on Gurney bearings, the weight of the car being taken on the pressed steel rear axle housing. The brakes are $12\frac{1}{4} \times 1\frac{3}{4}$ inches service, and $12 \times 1\frac{3}{4}$ inches emergency.

The frame is of channel section pressed steel and is braced by four cross members. High carbon steel springs are used both front and rear, being semi-elliptic, the rear being 55×2 inches. The wheels are 32-inch artillery type and carry Firestone demountable rims with $32 \times 3\frac{1}{2}$ straight side tires.

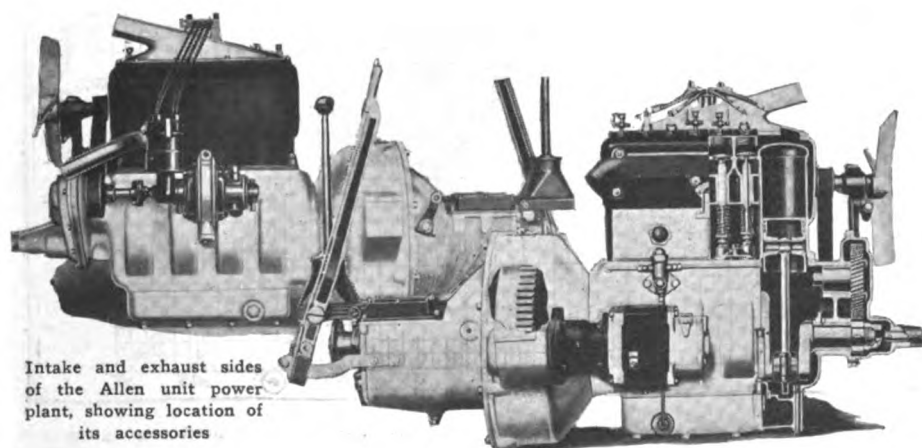
Features of the five-passenger body are the boatlike exterior and the wide doors with concealed hinges. Flush type upholstery is used and the floor boards are covered with linoleum with aluminum

ALLEN FOUR DETAILS

Price—

Touring	\$795
Roadster	795
Color	Black and olive
Number of cylinders.....	Four
Shape	L-head
How cast	Block
Bore	$3\frac{3}{4}$
Stroke	5
S. A. E. rating.....	22.5
Ignition	Westinghouse
Starting-lighting ...	Westinghouse
Clutch	Cone
Gearset	3-speed
Wheelbase	112
Tires	$32 \times 3\frac{1}{2}$
Steering	Left
Control	Center
Type rear axle.....	Floating

Equipment: Combination tail light and license bracket, horn, speedometer, rear tire irons, extra demountable rims, rain-vision windshield, one-man top with side curtains and slip cover, compound pump, tire repair kit and a complete tool kit and jack.



Intake and exhaust sides of the Allen unit power plant, showing location of its accessories

bindings. The instrument board mounts a speedometer, lighting, starting and ignition switches, air control lever and an instrument board light. These are flush mounted except the instrument light.

Black japan is used on the fenders and radiators, with the body, hood and

wheels olive green. The trimmings are nickel and aluminum. Specifications of the roadster are the same as for the touring car except for the body, which is provided with a rear compartment accessible from both sides and from the rear.

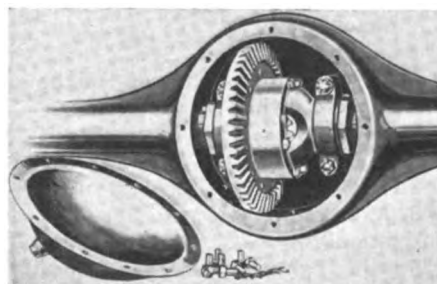
Cameron Develops Six to Sell for \$1,000

Touring and Roadster Bodies on Single Chassis—Touring Model Weighs About 9 Lbs. per Horsepower—Pedal-operated Emergency Brake

THE Cameron Mfg. Co., New Haven, Conn., which has for several years past been manufacturing automobiles under the name of Cameron, will produce for 1916 a six-cylinder chassis of 122-inch wheelbase and 33 x 3 tires with two styles of body, a five-passenger touring and a runabout with an enclosed seat in the rear which makes a four-passenger car when opened. Both styles sell for \$1,000.

The motor is 3 x 5 and of conservative construction. At 2,000 r.p.m. it is stated that 40 horsepower is delivered on the block, and the weight of the motor is said to be less than 9 pounds per horsepower. The cylinders are cast in a single block with an aluminum crankcase split in two pieces in the center for the inspection of moving parts or removal of the pistons. The crankshaft is carried on three bearings and is 1¾ inches in diameter. The bearings are all bronzed-backed with nickel babbitt linings. The connecting-rods are 9 inches long with their lower bearings 1¾ inches in diameter by 2 inches long. The upper bearings are ¾ inch in diameter by 1¾ inches long.

Lubrication is by a plunger pump operated from the camshaft, which takes oil from the compartment in the lower part of the crankcase to an oil-tight compartment surrounding the camshaft. The pressure is sufficient to hold the valve



Accessibility is a feature of the Allen axle construction

lifter against the valve, thus even with clearance the clicking of the tappets is avoided. The oil is piped to the main bearings from whence it passes to troughs beneath each connecting-rod, from where it is splashed to the cylinders. The amount of oil in the tank is indicated by a float gauge on the side of the crankcase.

A one-piece drop-forging is used for a camshaft. It is driven from the crankshaft by helical gears of eight-pitch with 1-inch face. The camshaft gear is bolted to a flange forged on the end of the camshaft. The water pump is gear-driven and the shaft extends through to drive the Atwater Kent timer distributor for ignition.

A Splitdorf-Apple starting and lighting system is provided in which a single-unit motor generator mounted at the front of

the crankcase is driven by silent chain enclosed in the gearcase. The battery is suspended beneath the engine under the hood which leaves every wire in plain sight when the hood is open. The starting switch is mounted on the flywheel housing, so that the complete power plant in the starting and lighting system is connected as a single unit.

Fuel is carried in the cowl, giving a direct gravity feed. The carbureter is a 1¼-inch Zephyr, so arranged that it can be either primed or adjusted from the seat.

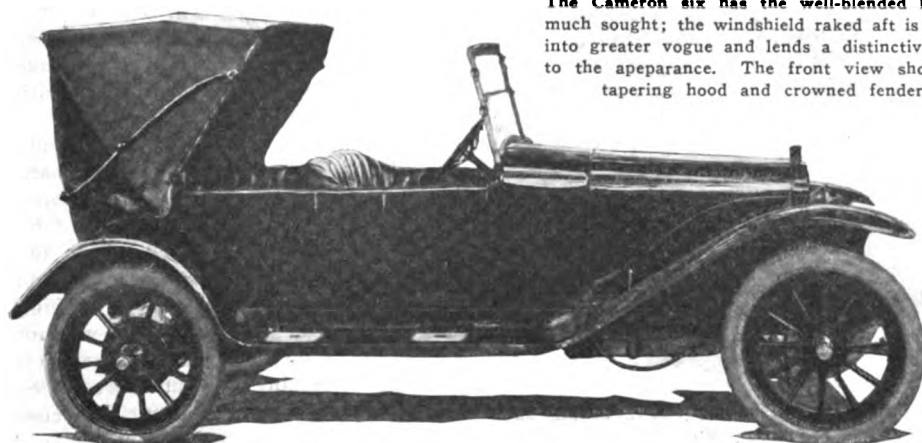
The clutch is an aluminum cone faced with special, tanned leather and enclosed in a housing which carries the pedals and receives the radius tube from the rear axle upon which the gearset is mounted. Three speeds forward are supplied and the gears are of chrome vanadium steel with the shaft mounted on annular ball bearings. The gear-shift lever is mounted on the radius tube, which simplifies the connections to the gearbox.

The rear axle is floating and the bevel drive and differential are accessible through a large cover plate at the back of the housing. The bevel gear and differential unit are mounted on annular ball bearings and the drive at this point provides a reduction of 3.75 to 1. The brakes are 12 inches in diameter. The emergency as well as the service brake is foot-operated and is provided with a ratchet for locking in position.

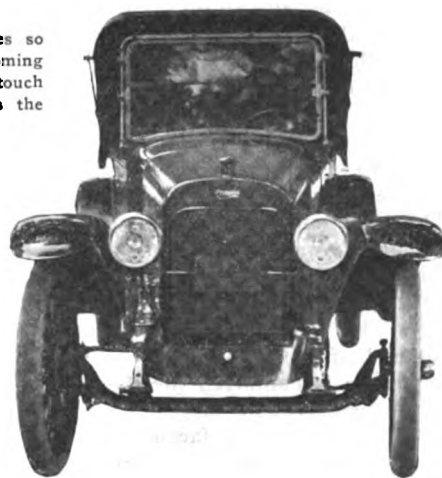
The chassis frame is 4 inches deep and is so shaped as to conform with the body lines. The runningboard supports are one-piece U-section of pressed steel running across under the chassis frame, not only giving rigidity to the running boards but adding to the strength of the frame. The radiator is high and narrow. The car is provided with a Victoria top over the rear seat, which can be thrown back if desired.

Are You Guilty?

Page 5



The Cameron six has the well-blended lines so much sought; the windshield raked aft is coming into greater vogue and lends a distinctive touch to the appearance. The front view shows the tapering hood and crowned fenders



Stearns Light Four Now \$1,395

Former Price \$1,750—Westinghouse Ignition System Adopted—Eight-cylinder Under Way

BUT one important alteration has been made in the light four produced by the F. B. Stearns Co., Cleveland, for the coming season, though the price has been reduced by \$355 from \$1,750 to \$1,395. This one change is in the adoption of Westinghouse battery ignition in place of magneto ignition. The Westinghouse apparatus operates in conjunction with a lighting and starting system of the same make. Another small mechanical change is the adoption of a somewhat larger front bearing for the torque rod. The eight-cylindered Knight motored car which is shortly to be announced by the company is not quite ready for the market.

The dimensions of the motor remain the same, giving a displacement of 248 cubic inches and an S. A. E. rating of 22.5 horsepower. A very neat block casting is used and the engine has the fully forced system of lubrication introduced last winter on this model. Oil is pumped to the three main bearings of the crankshaft and thence passes to the crankpins. From here it is led up the hollow connecting rods to the wrist pin bushings, while spray of escaping oil from the various bearings cares for the sleeves and the other motor parts.

Fan Lubrication Automatic

The ignition distributor is situated at the front of the engine beside the fan bracket. Mention of the fan draws attention to a very ingenious small feature of Stearns design which is that the lubrication of the fan spindle is automatic. The oil filler is located alongside the fan bracket and all oil for the motor is put in through this cap. Inside the strainer there is a wick having one end in connection with the fan bushing, and this wick becomes saturated with oil each time the crankcase is filled, so attending to the fan lubrication with sufficient frequency.

The situations of the generator and the starting motor are also shown in the illustrations, and it needs only to be added has a Bendix flywheel engagement. The oil pump is located at the front end of the eccentric shaft, and a silent chain is employed for the generator and water pump drive.

The clutch is a leather faced cone with very powerful cushion springs to make



Stearns four-cylinder, five-passenger car. The wheelbase is 119 inches

STEARNS LIGHT FOUR

Price—	
Touring	\$1,395
Roadster	1,395
Limousine	2,500
Cabriolet	1,900
Make of motor.....	Stearns-Knight
Number of cylinders.....	Four
How cast.....	Block
Bore	3¾
Stroke	5¾
S. A. E. rating.....	22.5
Ignition	Westinghouse
Starting-lighting ..	Westinghouse
Clutch	Cone
Gearset	3-speed
Wheelbase	119
Tires	34 x 4
Wheels	Wood
Steering	Left
Control	Center
Make of axles.....	Stearns
Type rear axle.....	Floating

the engagement easy, and a really adequate clutch brake is fitted. The gears are extremely easy to handle, though the low speed ability which is character-

istic of the Knight motor makes the high gear available for nearly every class of work.

One of the most successful features of the Stearns light four has been the contracting transmission brake behind the gearbox, this having extremely smooth action combined with great power.

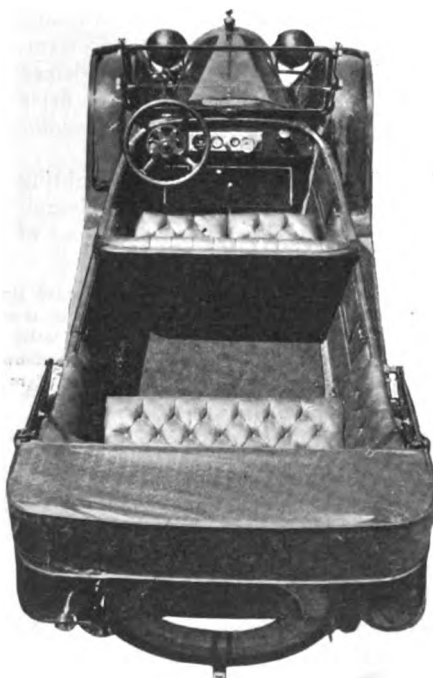
The two shoes are hinged on the opposite side of the drum and their free ends bear small rollers. Enclosing these rollers is a triangular hollow cam which depression of the pedal pulls forward, so closing together the ends of the brake shoes. The separating spring spreads the shoes and also puts a light release load upon the rollers, the cam, and so to the pedal, the effect being that there is no point in the whole of the brake layout where slack can develop and the creation of a rattle is thus impossible. The emergency brakes are of expanding type in the rear wheel drums, where they are fully protected against mud and grit.

Axle Bearings Numerous

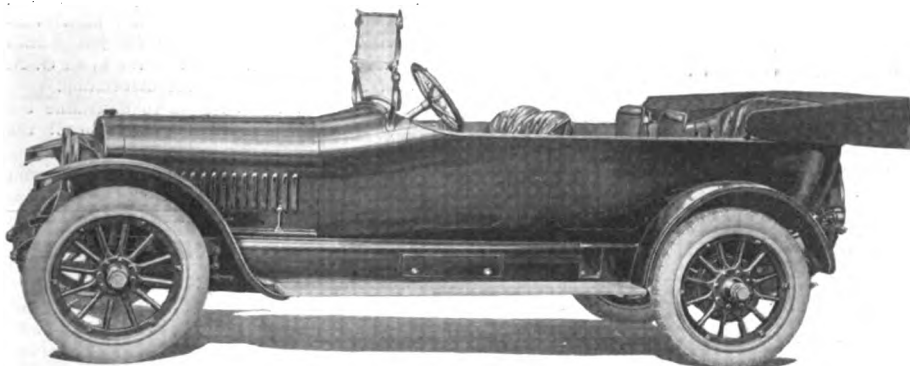
Spiral bevel drive is employed and the axle is a floating construction containing a very full equipment of radial and thrust ball bearings, while a torque stay of pressed steel takes the driving and braking torsional stresses. Propulsion is through the springs, which are 50 x 2½ inches and of cantilever type; the wheelbase is 119 inches. Tires are 34 x 4 inches all around.

In designing the bodies the aim has been to combine handsome lines with the amount of space needed for real comfort, but the tonneau has not the extremes of length and width which are sometimes found and are liable to make the body displeasing to use except with the full complement of passengers.

Lighting is cared for by double bulb headlights, tail light and a cowl board bulb. The carbureter is made especially for the Stearns motor and fed by gravity from a tank housed within the cowl. All controls are centralized upon the steering column so there is nothing that the driver cannot reach without moving his body, and the pedals are adjustable to suit any normal sort of leg length. Steering is at the left with control in the center.



Birdseye view showing cowl, control and seating arrangements



Seven-passenger car which is supplied with either a six or twin six motor

Davis Offers Fours, Sixes and Twelves

Five-passenger Four and Six—Seven-passenger Six and Twelve—Delco System and Stewart Feed—Many Body Improvements

THE George W. Davis Motor Car Co., Richmond, Ind., will market a line of cars made of standard units with entirely new bodies on all models. The four-cylinder chassis has been slightly altered and the price reduced \$70, making it \$1,165. The model 6-50 which was listed at \$2,150 has been discontinued. The 1916 line consists of the improved four, a five-passenger six at \$1,250, a seven-passenger at \$1,495 and a twelve in the same chassis at a price under \$2,000, but as yet undecided.

All Davis cars are alike, insofar as the make and design of their component parts are concerned, the motors being Continentals, the clutches and gearsets Warner-Muncie, axles Weston-Mott, universals Hartford, steering gear Warner.

The improvements in the four-cylinder model consist of the adoption of Delco cranking, lighting and ignition, the shifting of the fuel tank from under the seat to the rear, and the fitting of a Stewart vacuum gasoline tank, a new windshield and one-man top, a new type of rear axle and a new body.

It is in the Davis bodies that a departure has been made from ordinary practice. The front seats now are divided and both seats are movable, that for the driver being mounted on a track so that it may be moved back and forth to meet the driver's needs. The passenger's seat is mounted on a revolving base.

The bodies are roomier than those of 1915, have better lines and use metal moulding instead of wood. The doors are flush and now are hinged at the forward end. A new Neverleek top with Handy curtains, made by the Davis company, is used.

The five-passenger six uses the new model 7W Continental motor. The motor accessories are a Stromberg model HB carbureter, Delco electrical apparatus

and Stewart fuel feed. The transmission elements include a cone clutch and three-speed gearset driving a shaft, with Hartford joints, to a floating axle.

The twelve-cylinder model will be exactly like the large six except, of course, for the motor, which will be a Continental 3 x 4 with valves in the head.

Waverley Electric Prices Down

NEW YORK, August 13—The Waverley Co., Indianapolis, will increase its 1916 production about 100 per cent to 2,000 cars. Prices have been lowered \$500 to \$1,000, effective August 1. The following list gives the new and old prices:

Model	Old Price	New Price
108—5-Pass. Limousine.....	\$3,500	\$2,500
Roadster Coupe	2,000	1,750
109—4-Chair Brougham...	2,750	2,500
104—Front-drive 4-Passenger Brougham	2,400	2,000
105—Rear-drive 4-Passenger Brougham	2,350	1,900

Sun May Not Use Haynes Name

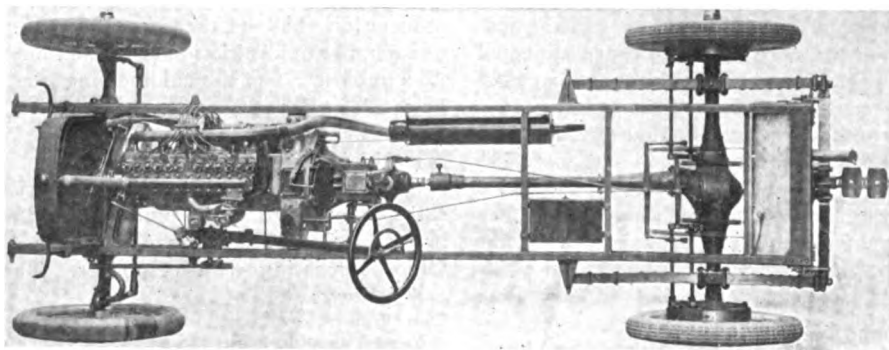
KOKOMO, IND., August 17—The Haynes Automobile Co. has been granted a temporary restraining order by the Circuit Court of Erie county, New York,

SPECIFICATIONS OF THE DAVIS LINE FOR 1916

Price—	Four	Six	Six
Touring	\$1,165	.....	.....
Touring, 5-passenger .....	.....	\$1,250	.....
Touring, 7-passenger .....	.....	.....	\$1,495
Make of motor.....	Continental	Continental 7W	Continental 6N
Bore	3¾	3¾	3¾
Stroke	5	4¾	5
S. A. E. horsepower.....	22.5	25.3	29.4
Ignition	Delco	Delco	Delco
Carbureter	Stromberg	Stromberg HB	Stromberg
Starting-lighting system.....	Delco	Delco	Delco
Clutch	Cone	Cone	Cone
Gearset	3-speed	3-speed	3-speed
Wheelbase	112	120	124
Tires	34 x 4	34 x 4	34 x 4½
Type rear axle.....	Floating	Floating	Floating
Equipment: One-man top; curtains; windshield; electric horn; Stewart vacuum feed; demountable rims and one extra; tire carriers; tools.			

The larger six has exactly the same design of units but uses the 6N Continental motor and running gear parts of larger size and greater strength.

restraining the use of the Haynes name in connection with that of the Sun car, which is to be produced by the Sun Motor Car Co., Buffalo, N. Y.



Seven-passenger six chassis, showing unit power plant and platform springs

Association News

MINNEAPOLIS DEALERS FIGHT WAREHOUSE RULING

MINNEAPOLIS, August 16—The Minneapolis Automobile Trade Association is fighting against an interpretation of a new warehouse law which would class every garage as a warehouse and require an annual license of \$100 and a bond of \$50,000. This, obviously, would force many garagemen out of business, especially if they were required to furnish such a big bond.

The law was recently passed and places all warehouses under the control of the State Railroad and Warehouse Commission; the law is very broad in its wording and can easily be stretched to cover the man who stores cars, but the dealers and garagemen contend that this was not intended by the framers of the act. In case the commission insists upon classing garages as warehouses the trade will bring a test case.

The association is also working for the inclusion of street cars in a head-light dimming ordinance. Preparatory work for the annual show, January 29-February 5, will begin early in September.

Car sales are especially good, states Assistant Secretary R. B. Simning. Whereas farmers in past seasons have preferred cars in the Ford price classification they now are purchasing sixes in large quantities. There is also a greater proportion of country to city business than heretofore.

MILWAUKEE TOUR TO BOOST FAIR MOTOR SHOW

MILWAUKEE, August 17—To take the place of the annual Wisconsin reliability tour and to advertise the big fall motor show to be held September 13-17, the Milwaukee Automobile Dealers, Inc., will conduct a five-day tour covering approximately 1,000 miles, August 23 to 28.

The tour will be purely of a business and social nature, with no contest features, and at least 75 cars are expected to participate. The exact mileage of the route is 965, and embraces every city of consequence in southern, eastern, western and the central part of Wisconsin. The State Fair motor show will be the biggest event of the kind that has ever been held in Wisconsin. In former years many dealers exhibited at the fair with excellent results, but no effort was previously made to conduct an exposition. This year the Milwaukee Automobile Dealers, Inc., has taken charge of the motor car department of the fair

and intends to make the exposition of as much consequence as the annual Milwaukee show which is held in the Auditorium in January.

CHICAGO ELECTRIC MEN FORM NEW ASSOCIATION

CHICAGO, August 16—The electric car garagemen and dealers of this city have formed the Electric Garage and Dealers Association of Chicago, which is a division of the Chicago Garage Owners Association. At the same time the Chicago Garage Owners Association has undergone a radical change and henceforth will be a body made up of representatives from the Electric Garage and Dealers Association, the Gas Garage Owners Association, the Motor Livery Association and the Tire and Accessories Association. This parent organization will not be a legislative body but will concentrate welfare work and other beneficial activities.

The electric garagemen have been without an organization, being members of the Chicago Garage Owners Association when they belonged to anything; the division of interests, however, created a need for more clearly marked sections in the association. The officers of the new electric organization are:

President, Gail Reed, sales manager of the Walker Vehicle Co.

First vice-president, J. N. Buck, manager of the McDuffee Automobile Co.

Second vice-president, William L. Rudd, William L. Rudd & Co.

Secretary, F. E. McCall, of the Vehicle Bureau of the Commonwealth Edison Co.

Treasurer, Harry Salvat, Fashion Auto Station.

Membership includes electric garagemen, manufacturers and dealers, makers of storage batteries and makers of tires for electric cars. The president, secretary and three delegates shall sit in the meetings of the Chicago Garage Owners Association. Meetings of the electric association shall be the second Monday of each month. Initiation is \$25 and dues \$2 a month. The annual meeting shall be held in January.

Ohio's Call For An Association

COLUMBUS, August 16—The official call of the Provisional Committee of the proposed Garage Owners Association of Ohio is meeting with responses. The call follows:

Dear Brother:—

As you probably know, the motor car business has reached second place in the industries of the United States.

Due to this fact the Columbus Garage Owners'

Association was formed about one year ago. The benefits of the local association have been of so much value to the members and the possibilities can be made so much greater that the C. G. O. A. has decided to organize a state association.

The purpose of this letter is to determine the attitude of a few influential garagemen of the state. You have been selected as one of them. We want your cooperation and ask that you answer the questions on the enclosed card; also, a letter giving your broader views would be appreciated.

We realize that the time has arrived to get this, the second business of the country, in shape where we can dictate some of the laws that shall govern us, also some of the prices we shall pay for material. This will benefit not only the garage owner but the public as well.

It has been a very hard matter to get a complete list of garage owners and we kindly ask you to boost the proposition in your locality by asking good men in the business to attend this meeting.

We need your help and influence; can we rely on your best efforts to attend a meeting at Columbus, October 4, 5 and 6, 1915, that we may form a state-wide association?

Yours very truly,

State Committee:

F. E. Avery, Chairman,
Robt. T. McClure, Secretary,
Geo. F. McDonald, Treasurer

CALIFORNIA'S NEW ASSOCIATION IS EXPANDING

OAKLAND, CAL., August 17—The first three months of the California Automobile Industries Association having been so successful, the organization plans to institute organization work in Los Angeles in order to acquire a representation in the southern half of the state. At present the association is represented in 11 counties out of the 54 in the state and it is hoped Los Angeles will have an organization in about a month.

The California Automobile Industries Association was formed in Stockton June 15; its next meeting was in San Jose July 13, and the third in Sacramento yesterday. The September meeting will be held in Oakland. Meetings are to be held monthly about the fifteenth. Four counties were represented at the time of organization. The officers and representatives are:

President, L. F. Parnell, proprietor of the Superior Garage, 336 North El-dorado street, Stockton.

Vice-president, J. E. Sloan, Buick Garage and Buick dealer, San Jose and Palo Alto.

Secretary-treasurer, R. W. Martland, Martland Co., distributor of Pennsylvania tires in Alameda county, 1775 Broadway, Oakland.

Representatives — Stockton, R. D. Heriot, proprietor of the Stockton Auto Supply Co.

San Jose, H. H. Fitch, garageman and dealer.

Santa Rosa, L. A. White, State Highway Garage, and W. E. Dorman, Santa Rosa Garage.

Sacramento, L. S. Upson, president of the Kimball & Upson Auto Supply Co.

Oakland, C. A. Muller, proprietor of the Tire Shop.

San Mateo, F. E. Beer and F. E. Morton, garage operators.

Monterey, Arthur Einston, garage operator.

Pacific Grove, Howard S. Bunting, Pacific Grove Garage.

Davis, L. R. Hoffman, garage operator.

Santa Cruz, Fred C. Jensen, garage operator and dealer.

Watsonville, E. Rasmussen, Century Garage and dealer, and Joseph Romand, garageman and dealer.

San Francisco, Frank E. Carroll, Goodyear branch manager.

The following organizations have affiliated: Automobile Industries Association of Alameda County and Contra Costa County; Sacramento Automobile Trades Association, embracing Sacramento and Yolo counties; San Joaquin Automobile Trade Association, San Joaquin and Stanislaus counties; Santa Clara County Automobile Trades Association; San Mateo Automobile Trades Association; Santa Cruz County Automobile Trades Association; Sonoma County Automobile Trades Association; and Monterey Automobile Trades Association. The membership is made up of 534 companies and businesses.

Detroit Dealers to Erect Hall

DETROIT, August 16—The Merchants & Manufacturers Auditorium, the purpose of which is the erection of an Auditorium or Convention Hall, has been organized by a number of men prominent in the trade here. The president of the organization is C. C. Starkweather, manager of the Detroit branch of the Buick Motor Co. and former president of the Detroit Automobile Dealers Association. Walter Wilmot, who has had charge of the local automobile shows for many years, is vice-president and general manager; William J. Gordon, of the Gordon Auto Sales Co., is treasurer, and Harry C. Buckley, of Campbell, Buckley & Ledyard, is secretary.

The building is to be erected almost in the heart of the city. The property secured to that effect has a frontage of 205 ft. on Woodward ave? nue, 45 feet on Antoinette and 205 or Cass. The size of the Auditorium or hall is to be 165 x 330 feet with a seating capacity for 24,000 people or more. It is in this building that it is expected that the next Detroit automobile show will be held. Work is to be started within the next 30 days and it is to be ready before the first day of 1916.

In addition to being a convention hall the new building is to be two stories high along the street, with a depth of 60 ft. on Woodward and Cass and 40 ft. on Antoinette. This is for the purpose of putting up a number of 20 ft. wide stores in which it is hoped automobile supply dealers and manufacturers agents will locate.

Don Lee Takes G. E. Truck

LOS ANGELES, August 17—Don Lee will handle the General Motors Co. truck line in California in the future.

Johnston Makes Appeal to Mayor of New York

Asks City's Head to Use Authority to Stop Prosecutions — Fire Department Renews Actions Against Garagemen

NEW YORK, August 16—President R. H. Johnston of the Automobile Dealers Association, representing all the allied trades in their fight against alleged oppression, has appealed directly to Mayor John Purroy Mitchel. He asks that the mayor exercise his authority to stop "the systematic persecution of the automobile dealers and garage owners of the city by the various bureaus of the fire department."

He states that permits for garages are being refused and that the owners are unable to find out how they can get permits. Departments, he states, "pass the buck" from one to another and decline to assume responsibility for the legal actions.

The latest instance of contention is the case of the city against the Winton branch, of which Charles M. Brown is manager. He has been served with a summons to answer a charge of operating without a permit. His building has been approved several times, was constructed 10 years ago in accordance with official approval, but is now declared unsuitable, although it is a modern fireproof structure. He has no gasoline separator.

Following the dismissal recently of suits against the Bronx Garage and W. L. Byrnes, for operating without licenses, other suits have been filed against the same garages, and the hearings have been put over until August 30 at 2 p. m.

Also, the Standard Oil Co. was notified by the city to cease selling oil to Byrnes, although why he was singled out is not stated; the oil company, however, has disregarded the order. The renewal of prosecutions bids fair to precipitate a renewal of the fight which has not been so keen for several months.

Driggs-Seabury Ordnance Co. Formed

NEW YORK, Aug. 14—The Driggs-Seabury Ordnance Co., incorporated in Delaware last week with \$4,000,000 capital stock, will take over the control of the old Driggs-Seabury Ordnance Corp. The company's capital consists of \$500,000 first preferred stock, \$500,000 second preferred stock, and \$3,000,000 common. It is understood that the common stock will be put on the curb today by Herrick & Bennett. The preferred stocks will not be offered to the public.

The new company will take over the entire plant and assets of the corporation and will at once resume the manufacture of trucks and other war munitions, and will take over the manufacture of about \$600,000 in truck parts, contracts for which were held by the corporation.

It is understood that E. A. Borie, formerly vice-president of the Bethlehem Steel Co., is slated for the presidency of the newly organized company. Strong New York interests, among which is the banking firm of Wm. Morris Imbrie & Co., are connected with the new organization. The board of directors has not been announced, but the operating end of the business will be in the hands of former officers of the Bethlehem Steel Corp. The latter company states that it is not trying to buy out the Driggs-Seabury Ordnance Co., as rumored.

Picnic of Seattle and Everett Dealers

SEATTLE, August 14—Under the auspices of the Seattle and Everett members of the Washington Automobile Chamber of Commerce a car dealers' and accessory men's picnic was staged at Silver Lake, midway between Seattle and Everett, Sunday, August 8.

A baseball game, tug-of-war and potato race, as well as swimming, were the features of the day's entertainment. The Northern Pacific Railway Co. donated a huge fruit cake to "Baldy" Cole, of the Ford agency at Everett, for his notable performance in the potato race.

Van Benschoten's Son Loses Life

POUGHKEEPSIE, N. Y., August 12—Henry Van Benschoten, 14, son of John Van Benschoten, the largest dealer in this section, lost his life a week ago today in an attempt to save the life of a playmate. Their canoe capsized in the inlet of Lake Chodikee, whereupon Henry told his companion to hang to the boat while Henry swam ashore. He had nearly reached shore when he sank. The body was recovered in three minutes but efforts at resuscitation were unsuccessful.

Cleveland Gets Willard Branch

CLEVELAND, August 17—A new branch of the Willard Storage Battery Co. has been opened in Cleveland at 2027 Euclid avenue. Full equipment for recharging, repairing and renewing has been installed and a complete stock of batteries is carried. To every motorist who calls will be given a card entitling him or her to free battery inspection at any time, whether the battery is a Willard or not.

Gaulois Tires Reduced Temporarily 25%

NEW YORK, August 17—The Gaulois Tire Corp. has reduced its tire prices 25 per cent, effective only for this week. The following prices are given on a few of the popular-sized tires:

	32x3½	33x4	34x4	35x4½	36x5
Plain tread..	\$15.11	\$19.76	\$20.29	\$24.75	\$28.65
Non-skid ...	18.19	23.47	24.34	29.62	34.27

Silver Takes His Men On 2-day Yacht Party

They Sailed on the Good Ship Pep as a
Reward for Selling More Than 200
Cars in June—They Called
the Boss's Promise

NEW YORK, August 16—The name of the East river has been changed to River Enthusiasm. The West 42nd street dock is now Pier Dull Care, and what was the steamship Frederick Dalzell is now the good ship Pep. All this rechristening occurred Saturday and Sunday at a yacht outing given by C. T. Silver to the organization of the C. T. Silver Motor Co., Overland, Willys-Knight and Peerless distributor.

Silver made a promise at a dinner last winter in the Yacht Room of the Astor that when the retail sales exceeded 200 a month he would give a yacht outing. In June this figure went to 393, and would have gone higher had there been any more cars to sell. Therefore Silver made good his promise to a party of 60.

They left West 42nd street at 2 o'clock Saturday, cruised up the East river—or River Enthusiasm—to the Bevan House at Larchmont, where they spent the night. Sunday they cruised to Witzel's Grove at College Point and ate clams. The New York organization beat the Bronx, Brooklyn, Newark and Yonkers branches 3 to 1 at baseball, and the yachtsmen saw a motor boat race. They returned at 8 o'clock Sunday.

Chalmers Service Men Convene

DETROIT, August 16—Today and tomorrow nearly all of the service men of the Chalmers Motor Co., over 100 are taking part in the annual convention which is being held at the plant.

President Hugh Chalmers and Vice-president Pfeffer greeted the service men and talked to them on the Chalmers 1916 policy and plans. Sales Manager Paul Smith outlined the object and plans of the convention. Chief Engineer C. C. Hinckley spoke about valve-in-head overhead camshaft motors. Service Manager A. B. Hanson introduced the service men to the heads of the various divisions of his department and under the direction of Vice-president in Charge of Works S. H. Humphreys, the service men made a tour of the plant. During the afternoon a trip to Grosse Pointe was taken and in the evening a dinner was served at the Pontchartrain Hotel.

Tuesday's session will open with a general discussion on service. This will be followed by a discussion of the Chalmers 6-40 motor, which will be illustrated with practical demonstrations. Other speakers are to be A. Atwater Kent, president of the Atwater Kent Mfg. Co., Philadelphia; H. F. Willard, manager of agencies of the Willard Storage Battery Co., Cleveland; Frederick Purdy, of the Findeisen & Kripf Mfg. Co., Chicago, and H. S. Barter, of Gray & Davis, Boston.

Hercules Sold by the Sheriff

LOUISVILLE, KY., August 17—The property of the Hercules Motor Car

Co., New Albany, Ind., was sold today at sheriff's sale by County Sheriff Charles W. Long in New Albany. The sale was made on a decree issued by Judge John M. Paris in the Floyd Circuit Court in a foreclosure suit of the Fidelity & Columbia Trust Co., of Louisville, trustee for first mortgage bondholders, against the Hercules Motor Car Co., the Hercules Sales Co., and about 100 stockholders in various parts of the country who hold \$110,323 of stock certificates.

The plant was bid in by Evan B. Stotsenburg, attorney for the bondholders, at \$20,800. The value of the property is estimated at \$40,000. For the present, it was announced following the sale, the plant will be occupied by the Hercules Sales Co., which has it under lease from the receivers. The Hercules Sales Co., which has its headquarters in Louisville, took over the patterns, name of the car and blueprints of the Hercules Motor Car Co., of New Albany, the first part of this year, while the Kentucky Wagon Mfg. Co. is manufacturing Hercules cars, an agreement to that effect having been made in March with the Hercules Sales Co.

GARAGEMAN NOT WHOLLY TO BLAME, SAYS FINCK

Reedsburg, Wis., Aug. 7, 1915.
Editor Motor World:

I have subscribed for several years for your journal and read with much interest the articles concerning accessories sales by garages. I agree with you that the garageman is the proper party to sell the accessories and as I am in the position as many others are I desire to call your attention to another factor.

Why do you blame the garagemen only while the manufacturer is just as much to blame? To explain this a little more I wish to say that no automobile accessories or tires or automobiles should be sold to hardware dealers. In the first place they are not entitled to dealers' prices as they do not maintain a public garage. Secondly, they are handling tires as a side line and consequently sell cheaper.

This is the case with tires, automobiles, etc. Third, the garagemen have a good stock on hand and are in a position to procure the desired goods in a very short time. Therefore, I conclude that the manufacturer should not sell any automobiles, tires and accessories to hardware dealers or any others but garagemen if the latter are in town.

This, in my opinion, would put the entire automobile business on a more legitimate basis, on a foundation, to build the greatest business growing.

Yours very truly,

F. W. Finck,
The Reedsburg Automobile Co.

Ford Made \$143,502,540 Worth Of Cars Last Year

The Number Was 246,570 Touring Cars,
46,231 Runabouts and 15,402 Town
Cars Sedans and
Coupelets

DETROIT, August 16—The 308,213 Ford cars which were made and sold by the Ford Motor Co. during the 1915 fiscal year of that company are valued at a total of \$143,502,540. The figure is based upon a sale of 246,570 touring cars, or 80 per cent of the total output; 46,231 runabouts, or 15 per cent of the output, and 5 per cent, or 15,412 town cars, sedans and coupelets.

It was in March—on the 17th—that the record production of 2,096 cars in one day was established. A few days later 2,026 were made. In April there were also days when the 2,000 cars a day schedule was maintained. The total for April was 46,510 cars, the biggest month in the Ford history. In comparing these figures with the more recent activities at the mammoth plant it will be remembered that on July 16 car No. 300,000 of the 1915 output was completed. In the 14 working days from July 16 to 31, the total output of Fords was 8,213, or at the rate of only 586 cars a day, or 1,510 less than the March record day and 441 less than the daily average for the whole past season.

By January 1 the production facilities will allow every assembling plant to assemble from 75 to 150 cars a day. Some of the plants, like Philadelphia, Los Angeles, San Francisco, Long Island City and Chicago, will be supplied with stock to turn out 200 or more cars a day. However, whether such an output will be maintained for any length of time is something no one can predict.

The accompanying table will give a correct idea of the growth of production of the Ford Motor Co. since this concern has been in existence.

Year	Total Output of Cars	Increase or Decrease	Average Daily Production based upon 300 working days
1903-1904	1,708	—	5
1905	1,695	— 13	5
1906	1,599	— 96	5
1907	8,423	+ 6,824	28
1908	6,398	— 2,025	21
1909	10,607	+ 3,209	35
1910	18,664	+ 8,057	62
1911	34,466	+ 15,802	115
1912	68,544	+ 30,078	228
1913	164,452	+ 95,908	545
1914	248,307	+ 83,855	827
1915	308,213	+ 59,906	1,027

Total ... 873,076

According to Ford salesmen, as well as to state registration records, it appears that 80 per cent of the Ford cars sold in 1915 were touring cars, 15 per cent were runabouts and the remainder, 5 per cent, consisted of town cars, coupelets and sedans.

Based upon these percentages, the

Oldest Dealers

Men who have handled one car
for the longest period of time.
Others will appear in this series.



JAMES G. PARKER
Haynes, Decatur, Ill.

THE OLDEST DEALER of the Haynes Automobile Co., Kokomo, Ind., is the North Main Street Garage, 530-32 North Main street, Decatur, Ill., of which the proprietor is James G. Parker.

Parker entered the motor car industry in 1905 as a dealer in the old Pope-Toledo. In 1908, early in the 1907 season, he acquired the Haynes agency and has been selling that car

ever since. He has handled other cars for shorter intervals, but considers the Haynes his principal and best business connection.



PARKER'S NORTH MAIN STREET GARAGE

Ford company sold 246,570 touring cars, having a total value of \$110,819,300; 46,231 runabouts, having a total value of \$20,341,640, and 15,412 town cars, sedans and coupelets, of an average value of \$800, or a total value of \$12,341,600. This brings the total estimated value of the cars sold by the Ford company in 1915 to \$143,502,540.

To the purchasers of the 308,213 cars sold during the past season the Ford company will return as a rebate a total of \$15,410,650.

2,070,903 Cars in United States

There were registered in the United States 2,070,903 cars at the end of June. This is an increase of 335,000 since the beginning of the year, and this total will be swelled to 625,000 by the end of 1915. Below is a list of registrations by states:

New York	185,767	Virginia	17,799
Ohio	152,950	Maine	16,865
Illinois	151,832	N. Carolina	16,315
California	138,600	S. Carolina	16,000
Pennsylvania	128,062	R. Island	15,000
Iowa	117,407	Kentucky	14,820
Michigan	93,669	Florida	12,493
Minnesota	82,000	W. Virginia	12,000
Indiana	81,208	Alabama	11,800
Massachusetts	76,168	Montana	11,000
Texas	72,433	N. Hampshire	10,422
Wisconsin	70,490	Vermont	9,489
Missouri	64,460	Dist. of Col.	8,500
Nebraska	60,000	Mississippi	8,500
Kansas	59,485	Arkansas	7,200
New Jersey	58,179	Utah	6,615
Washington	35,000	Idaho	5,928
Connecticut	34,199	Arizona	5,426
Maryland	25,732	Delaware	4,135
Oklahoma	25,000	Louisiana	4,000
Tennessee	24,951	New Mexico	3,695
N. Dakota	24,000	Wyoming	3,262
S. Dakota	22,700	Nevada	1,190
Georgia	22,150		
Colorado	21,588		
Oregon	20,419		
		Total	2,070,903

TICKETS ARE OUT FOR THE RACE AT SHEEPSHEAD

NEW YORK, August 17—The Sheepshead Bay Speedway Corp. has established these prices for the opening meet on October 2: Grandstand, \$3; bleachers, \$1; automobile parking spaces within oval of track, \$25, \$15, \$10 and \$5; boxes, \$50 and up; general admission, \$2. Each box is constructed to accommodate six persons.

Sixth Edition of Used Car Market Report Out

Lists 23 More Cars Than Preceding Book and Covers All But One of the Twelve Zones in the United States

CHICAGO, August 17—The sixth edition of the National Used Car Market Report has been issued by the Chicago Automobile Trade Association. It covers 11 of the 12 zones into which the United States is divided. The only missing section is made up largely of Texas and New Mexico.

The book carries 154 cars, whereas the fifth edition carried but 131. Those that have been added are: Briscoe, Chadwick, Crow, Crow-Elkhart, Dodge, Dort, Grant, Herff-Brooks, Lewis, Lyons-Knight, Meteor, Monarch, Partin-Palmer, Pratt, Pratt-Elkhart, Remington, Republic, Ross, Scripps-Booth, Standard, Touraine, Vulcan and Willys-Knight.

In addition to the manufacturers who had subscribed for their dealers when the fifth edition came out the Cadillac Motor Car Co. has been added. Also these associations have been added to the list: Minneapolis Automobile Trade Association, Rochester Automobile Trade Association, Inc., and the Motor Car Dealers Association of San Francisco. This makes 28 supporting organizations.

In the fifth edition the Minneapolis zone was missing, embracing Montana, North and South Dakota, Minnesota, northern Wisconsin and upper Michigan.

Louisville to Have Speedway
LOUISVILLE, KY., August 17—If the present plans of local capitalists and

men from Cincinnati and Indianapolis are carried out, Louisville will have a \$250,000 motor speedway, with a two-mile oval course. Property aggregating 300 acres has been purchased and leased immediately south of and adjoining the Douglas Park race track.

George L. Martin, of the real estate firm of Mueller & Martin, is one of the principal promoters. Interested with Mueller & Martin are Carl G. Fisher, originator and president of the Indianapolis Motor Speedway; Louis Seelbach, president of the Seelbach Hotel Co.; Patrick J. Hanlon, former vice-president of the American Tobacco Co.; Frank Fehr, president of the Frank Fehr Brewing Co.; Basil Doerhoefer, a Louisville capitalist, and J. H. McKee, a Cincinnati capitalist.

White \$3,000,000 Stock Issue

CLEVELAND, August 13—The White Co. will issue \$3,000,000 new stock, to be used for plant extensions. The present capitalization is \$500,000 preferred and \$2,400,000 common. The preferred stock will be retired immediately at \$115 a share, plus accumulated dividends until November 1 next. The new issue of \$3,000,000 preferred will pay 7 per cent and will be sold to present stockholders.

Northway Enlarging Factory

DETROIT, August 14—Additions now being erected, together with a new building not yet started, will eventually double the floor space of the Northway Motor & Mfg. Co. and bring the total up to 450,000 square feet. When completed the working force is to be increased and it is said that about 4,000 men will then be on the pay-roll.

Are You Guilty?

Page 5

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

O. F. Baughman has been appointed sales manager of the Winton Co., Cleveland, O.

H. W. Conrad has resigned as sales manager of the Pullman Motor Car Co., York, Pa.

O. P. Hand has been appointed director of the Burd High Compression Ring Co., Rockford, Ill.

Walter Brodhead has been made manager of the Marmon used car department in New York city.

J. Hirsh has been made factory representative for the Chalmers Motor Co., Detroit, for California, with headquarters in San Francisco.

Cliff Knoble, formerly with the National Cash Register Co., Dayton, has been appointed assistant advertising manager of the Hyatt Roller Bearing Co., Detroit.

W. S. Hughes has been appointed chief engineer of the Falcon Motor Truck Co. During the past 5 years he has been connected with the Findeisen & Kropf Mfg. Co., Chicago.

Robert P. Bishop has been made sales manager for the King Motor Car Co., Detroit, succeeding Walter L. Daly, who has resigned. **I. B. Meers** becomes assistant sales manager.

H. A. Knox has severed his connection with the Lyons-Atlas Co., Indianapolis, and will return temporarily to Springfield, Mass. He held the position of general manager for the Lyons-Atlas company.

Ross I. Schramm, until recently assistant advertising manager of the Packard Motor Car Co., recently resigned to become distributor in Ottawa, Canada, for the Ford Motor Co. of Canada, Ltd.

Will Spalding, the Milburn & Walker electric representative, with headquarters in Portland, Ore., has been appointed district manager for the Milburn interests for Oregon, Washington, Idaho and British Columbia.

A. J. Merrill, who has been connected with the Los Angeles branch of the Winton Motor Car Co., has been elevated to the position of sales manager. He fills the vacancy caused by the resignation of John S. Wiese.

L. E. McKenzie, formerly in charge of the Studebaker interests in Pittsburgh, has been appointed assistant manager of the Portland branch, succeeding Clete Mulick, who has been transferred

to the Studebaker branch in San Francisco.

Dividends Declared

Studebaker Corp.—Quarterly of $1\frac{3}{4}$ per cent on preferred and $1\frac{1}{4}$ per cent on outstanding common, payable Sept. 1.

B. F. Goodrich Co.— $1\frac{3}{4}$ per cent on preferred, payable Oct. 1.

PICARD COMPLETES PLANS FOR SALE OF GENEMOTOR

NEW YORK, August 14—A. J. Picard & Co., general distributor of the Genemotor starting and lighting system for Ford cars, manufactured by the General Electric Co., has completed its plans for the distribution of the new series Genemotor which has just been brought out. The Genemotor was awarded the gold medal at the Panama-Pacific International Exposition.

Two particular improvements are in the new series, which is the second model of Genemotor offered since January 1. These are a double point contact relay and a flexible driving pinion which is designed to eliminate chain trouble. The new contact relay arrangement enables the generator to start charging the battery at a lower car speed than before; on high gear the battery starts charging with the new model at a car speed of 9 m. p. h.

The reduction of speed at which the battery charges is due to changes in the electrical characteristics of the Genemotor and also to the employment of the improved reverse current cut-out which has a double instead of a single contact. With the lower charging speeds, drivers who travel at an average speed of 15 m. p. h. or less will not be troubled by a shortage of current.

The flexible driving pinion is a cushion sprocket much along the lines of that used during the past season. The price remains the same, \$75.

Better Than 100 Miles Made In Elgin Practice

Fast Time on Straightaways and Average Should Be About 80—Course Well Oiled—Entries Are Listed

CHICAGO, August 16—Practice for the Elgin races, August 21-22, started today, and better than 100 miles an hour was made on the straightaways. The track is immeasurably superior to that of former years. Eighty miles an hour average may not be impossible if weather conditions are favorable. The course has been oiled for several weeks, and the practice times are well above those of last year. The entries for the two days are:

FIRST DAY

De Palma, Mercedes	Oldfield, Delage
Henderson, Duesenberg	Bragg, Stutz
O'Donnell, Duesenberg	Cooper, Stutz
Brown, Du Chesneau	Anderson, Stutz
Alley, Ogren	Patrick, Mercer
Justen, Cornelian	

SECOND DAY

De Palma, Mercedes	Burt, Stutz
Henderson, Duesenberg	Anderson, Stutz
O'Donnell, Duesenberg	Henning, Mercer
Mulford, Duesenberg	Patrick, Mercer
Scott, Anderson Sp.	Alley, Ogren
Brown, Du Chesneau	Oldfield, Delage
Bragg, Stutz	Robillard, Lozier
Cooper, Stutz	Buzane, De Dietrich

To Direct Sun Sales

ST. LOUIS, August 14—Announcement was made here today that James E. Newell, of the Newell Motor Car Co., will direct the sales campaign of the recently organized Sun Motor Car Co., of Buffalo, N. Y., in Arkansas, Mississippi, Louisiana, southern Illinois, eastern Missouri and parts of Indiana, Kentucky and Tennessee.

Dealer Factory Visitors of the Week

FRANKLIN AUTOMOBILE CO.

H. E. Bradford.....Waterbury, Conn.
H. M. Porter.....Dayton, O.
A. Walrath.....Ft. Plain, N. Y.
John Moseley.....Hoosick, N. Y.
C. G. Heck.....Albany, N. Y.

SAXON MOTOR CO.

Phelps F. Ferris.....Big Rapids, Mich.
Guy R. Ford.....Toledo
Col. Whitesides.....Indianapolis
Kelly and Ballard.....Clare, Mich.

WESTCOTT MOTOR CAR CO.

Chas. Swihart.....Eaton, O.
F. J. Wilson.....Lewisburg, O.
W. F. Tedder.....Akron, O.
John Ludy.....Greenville, O.
Dr. A. W. Tindall.....Hartford City, Ind.
Stanley M. Hayes.....Johnstown, Pa.
C. S. Burke.....Springfield, O.

PACKARD MOTOR CAR CO.

H. M. Allison, Packard Motor Car Co. of Chicago
J. P. Parker, J. P. Parker-Harris Co. of Memphis
E. B. Jackson, Packard Motor Car Co. of Phila.
G. M. Chase, Mandery M. C. Co. of Rochester
C. P. Joy, Joy Bros. M. C. Co. of St. Paul
J. W. Walton.....Evansville, Ind.

A. E. Welke, Northwest Motor Co.Seattle
J. P. Beck, J. P. Beck & Son.....Saginaw

PAIGE-DETROIT MOTOR CAR CO.

Ivan E. Brands.....Corunna, Mich.
Paul L. Klinger, Klinger & Co.Pittsburgh
E. G. Hayes.....Flint
John B. Patterson.....Hamilton, Ont.
Edwin H. Jungclas.....Cincinnati
H. H. Karstens.....Zeeland, Mich.
H. A. Porter.....Grand Rapids
C. J. Wooley.....Sidney, O.
D. S. Hoover.....Mansfield, O.
John R. McLaughlin.....Columbus, O.
C. M. Howard.....Lexington, Ky.
W. H. Baxter, Baxter-Duckworth Co.,
Springfield, Mass.
Clyde M. Curry.....Windsor, Ont.
C. L. Sturtevant, Paige-Toledo M. C. Co.Toledo
C. J. Clapp, Paige-Toledo M. C. Co.Toledo
Sherwood Hall, Jr.Boston
A. L. Strong.....Elmira, N. Y.
Mahaffey Bros.Corning, N. Y.
J. A. McNutt.....Louisville
F. M. Leary.....Indianapolis, Ind.
Ed. Wetherspoon.....Alliance, O.
E. G. Bates.....Dayton
John L. Bromley.....Oil City, Pa.
G. W. Davis.....Huntington, W. Va.
E. L. Smith.....Howell, Mich.

Eight-cylinder Knight to be Added by Stearns

Motor Will Be of Accepted V Type with Cylinders Measuring $3\frac{1}{4} \times 5$ in.—

Chassis Same as Four—
Many Body Styles

CLEVELAND, August 17—The F. B. Stearns Co. is preparing shortly to place on the market an eight-cylinder V-type Knight-motored car. The engine has a fairly long stroke, proportion being $3\frac{1}{4}$ to 5 inches. The wheelbase is 123 inches and there will be a wide choice of body styles, notably a seven-passenger touring car, a three-passenger roadster with a very wide single seat, and a four-seated coupe. Limousine and landaulet bodies will also be available.

In general design the chassis follows the lines of the Stearns four-cylinder model. In developing this engine the Stearns company has built many experimental models. There are two eccentric shafts, situated close together in the V, being in the position usually occupied by the camshaft in a poppet engine. For driving these eccentric shafts a silent chain is used, but this drives one only, the second shaft being driven from the first by a spur gear.

Oil goes to a hollow $2\frac{1}{4}$ -inch crankshaft and is thence taken to every point as the connecting rods are hollow and serve as leads to the piston pins. There is a double carburetor and this is situated in the V, the exhaust manifolds being on the outside of each cylinder block, which makes for convenience and neatness. For electrical equipment a Westinghouse double unit system is employed and there is also a Remy distributor for ignition.

Side by side connecting rods are employed after experiments with the forked type in conjunction with other experiments with the arrangement adopted, and the cylinder blocks are staggered $1\frac{1}{2}$ inch to allow for the rod layout.

Empire Adds a New Four

INDIANAPOLIS, August 17—The Empire Automobile Co., which recently brought out a new six at \$1,095, has replaced its previous four by a new four at \$895. The new four has a $3\frac{3}{8} \times 5$ T-head motor, Connecticut ignition, Schebler carburetor, cone clutch instead of disk, and a three-speed gearset. The rear axle is much the same as that in the preceding four. The tires are larger, being 33×4 instead of $32 \times 3\frac{1}{2}$. The wheelbase is 112. The body is an entirely new design.

Enger Adds Twelve at \$1,085

CINCINNATI, August 17—The Enger Motor Car Co. is preparing to place on

the market a twelve-cylinder car which will sell for \$1,085. It will have a removable head $2\frac{3}{8} \times 3\frac{1}{2}$ -inch motor. The wheelbase will be 115 inches and the tires 32×4 . The body will be the most advanced type of streamline creation mounted on cantilever springs.

GASOLINE GOES UP 1 CENT IN NEW YORK CITY

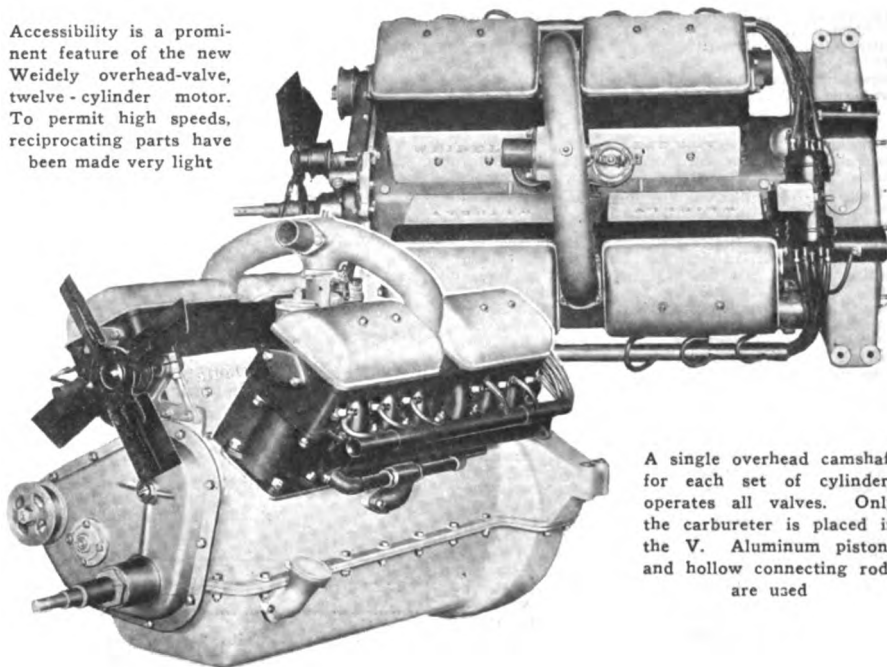
NEW YORK, August 17—Gasoline went up a cent today, from 13 to 14, delivered to the garageman. The Standard Oil Co. and the Texas Co. both raised. The last previous raises were: Standard, July 27, from 12 to 13; Texas, July 28, from 12 to 13.

Weidely Twelve Cylinder Motor

INDIANAPOLIS, August 16—The Weidely Motor Co. has brought out a twelve-cylinder motor which operates under the Weidely principle using an overhead camshaft. The motor has $2\frac{3}{8} \times 5$ in. cylinders and is stated to give a speed from 2 to 75 m. p. h. when fitted to a passenger car chassis. The cylinders are cast in threes with the motor heads cast in a single block for each set of six cylinders. A liberal use of aluminum has been made throughout the motor, the crankcase being a divided aluminum design and the pistons also of aluminum alloy.

Lightness is one of the main features of the new motor and this has been carried through particularly in the reciprocating parts. In addition to aluminum pistons, seamless steel tubular connecting rods aid in the reduction of vibration at high speed. The crankshaft is $2\frac{1}{8}$ in. in diameter and the flywheel is a steel forging. Lubrication is by pressure feed. It is intended to put these motors through on a regular production schedule.

Accessibility is a prominent feature of the new Weidely overhead-valve, twelve-cylinder motor. To permit high speeds, reciprocating parts have been made very light



A single overhead camshaft for each set of cylinders operates all valves. Only the carburetor is placed in the V. Aluminum pistons and hollow connecting rods are used

St. Louis Independents to Fight Standard Oil

Will Bring Alleged War Against Them Before August Meeting of Their Association—Fuel Price Steadily Reduced

ST. LOUIS, August 14—The alleged war of the Standard Oil Co. against independents in St. Louis will be called to the attention of the Independent Petroleum Marketers Association of the United States at its annual convention in Milwaukee, August 25. Announcement to this effect was made here today by F. C. Bretsnyder, president of the Bell Oil Co. and an officer in the national organization. The fight during the last 18 months has brought the retail price of gasoline down from $17\frac{1}{2}$ cents to 8.9 cents, a reduction of almost 50 per cent, and has raised the price of crude oil 25 per cent, Mr. Bretsnyder said.

The national organization of independents has a membership of about 1,000. Bretsnyder claims the organization soon will control 50 per cent of the oil output of the country. What means the independents would take to fight the Standard Oil, Bretsnyder would not say, but he felt confident that the blows of the independents would be felt.

While the price of gasoline has been reduced in many eastern cities also, local dealers claim that nowhere has it been cut so frequently and deeply as in St. Louis. Almost invariably the cuts of one cent each were first announced here by the Standard Oil. The Pierce Oil Corp. soon followed and the smaller dealers fell into line, gradually meeting each cut, although several were frozen out.

Motor Car Dealers Recently Established

COMMERCIAL VEHICLES		
ALABAMA		
Place	Car	Dealer
Birmingham	Vim	Capitol Park Auto Co.
CALIFORNIA		
Los Angeles	Vim	Albert L. Brush
Los Angeles	Denby	Pacific Metal Products Co.
CONNECTICUT		
Bridgeport	Vim	John L. Carpenter
DISTRICT OF COLUMBIA		
Washington	Vim	Congressional Garage
PLEASURE VEHICLES		
ALABAMA		
Anniston	King	Anniston Motor Car Co.
Birmingham	Chalmers	A. L. Boorne
Florence	King	B. A. Rogers & Bros.
Little Rock	King	United States Auto Co.
Opelika	King	Isham Dorsey
CALIFORNIA		
Barstow	Studebaker	E. L. Stanfield
Chino	Overland	Perez & Hannagan
Coalinga	Overland	Eagle Garage
Coalinga	Dodge	Spear Bros.
Coalinga	Buick	C. C. Kratzer
Coalinga	Winton	C. C. Kratzer
Coalinga	Chevrolet	C. C. Kratzer
Long Beach	Dodge	H. B. Wynkoop
Long Beach	Hudson	H. B. Wynkoop
Santa Ana	Kissel	Chas. B. Perry
Santa Barbara	King	H. Grant Connor
San Francisco	Scripps-Booth	John F. McLain Co.
Van Nuys	Chevrolet	Van Nuys Garage
Van Nuys	Overland	Lemay & Lewis
Van Nuys	Studebaker	L. L. Whitson
CANADA		
Berlin, Ont.	Regal	Canadian Regal Motors Ltd.
Guelph, Ont.	Hupmobile	Truslu Bros.
COLORADO		
Denver	National	W. W. Beeson
Denver	Chalmers	E. J. Johnson
CONNECTICUT		
Waterbury	Scripps-Booth	H. E. Bradford
DISTRICT OF COLUMBIA		
Washington	Dort	Miller Bros. Auto & Supply House
Washington	Herff-Brooks	Cartecar Sales Co.
FLORIDA		
Miami	Oldsmobile	William A. Hill
Orlando	Hupmobile	J. P. Holbrook
Tallahassee	Hupmobile	Jas. Mamer
Tampa	Scripps-Booth	Beckwith-Wilson Co.
GEORGIA		
Atlanta	Pullman	Pullman Southern Distributors
Atlanta	King	Thompson Motor Co.
Columbus	King	F. J. Dudley
Eastman	Hupmobile	F. A. Roberts
Macon	Hupmobile	Littlejohn Sales Co.
Savannah	King	R. B. Oakman
Savannah	Oldsmobile	Savannah Motor Car Co.
INDIANA		
Crawfordsville	Scripps-Booth	Albright Auto Co.
Evansville	Kissel	B. M. Lindsey
Evansville	Vim	C. W. Bowles
Ft. Wayne	Dort	Fuhrman Auto Co.
Hartford City	Westcott	A. F. Tindall
LaPorte	King	H. C. Barr
Noblesville	Oldsmobile	W. E. Wolfe
Terre Haute	Oldsmobile	Cole Auto Co.
ILLINOIS		
Bloomington	Apperson	S. Schad
Bloomington	Packard	C. U. Williams & Son
Danville	Westcott	Edwin Timm
Flanagan	Apperson	Linneman Bros.
Forrest	Apperson	J. A. Tune
Hardin	King	Elmer E. Williams
Herrin	Herff-Brooks	Herrin Auto Co.
Lincoln	Willis-Knight	Lark Wason
Palatine	Oldsmobile	The Motor Inn Garage
Paris	Oldsmobile	Cole Auto Co.
Reddick	Apperson	F. S. Boyer
Riverside	Scripps-Booth	Riverside Garage Co.
Sherrard	Oldsmobile	Kinney & Elliott
Springfield	Buick	A. B. Johnson
Thomasboro	Hupmobile	T. T. Bowers and W. J. Ehler
Watseka	Apperson	E. J. Martin
IOWA		
Bellevue	Herff-Brooks	H. H. Laymeyer
Carroll	Lexington	J. F. Holland
Des Moines	Scripps-Booth	Holsman-Stevens Automobile Co.
Des Moines	Saxon	Taylor Motor Co.
Dysart	Apperson	Trio Motor Car Co.
Floyd	Apperson	C. N. Barney
Gildden	King	E. O. Potter
Humboldt	Hupmobile	Palms & Son
New Hall	King	Nels Tredt
Red Oak	Apperson	Alex Peterson
Shelby	Apperson	J. M. Sutton
Storm Lake	Oldsmobile	J. C. Cleveland
Tipton	Hupmobile	C. N. Wallick

Place	Car	Dealer
Waterloo	Apperson	Apperson Motor Sales Co.
Winterset	Kissel	Winterset KisselKar Co.
KANSAS		
Atchison	Oldsmobile	A. B. Campbell
Cawker City	Hupmobile	P. H. Schroeder
Lawrence	Hupmobile	Lawrence Auto Co.
Osborne	Oldsmobile	Rolce Brothers
Wichita	Pullman	Pullman Motor Co.
MASSACHUSETTS		
Boston	Allen	John L. Judd
Boston	Hupmobile	Atlantic Auto Co.
Boston	Lewis Vi.	John L. Judd
Boston	Rauch & Lang Elec.	W. S. Jamison
Boston	Stutz	Becker-Stutz Co.
MICHIGAN		
Adrian	Oldsmobile	W. Hal Marshall
Alma	Hupmobile	Nelson A. Smith
Battle Creek	Apperson	Ackley & Abbey
Benton Harbor	Reo	Charles Helm
Cadillac	Ford	McDonald Sales Co.
Dowagiac	Ford	Pinkham Auto Co.
Grand Rapids	Oakland	Western Michigan Oakland
Grand Rapids	Winton	Riley Traxler
Houghton	Oldsmobile	Peninsular Garage & Supply Co.
Ithaca	Apperson	D. D. Ogden
Jackson	Chalmers	Briscoe Motor Sales Co.
Kalamazoo	Cornellian	Ross Thompson
Linden	Holler	C. A. Sutliff
Linden	Studebaker	C. A. Sutliff
Marshall	Buick	Harley G. Edwards
Millford	Overland	C. A. Fitzgerald
Paw Paw	Ford	Packard & Gliddings
Pigeon	Dort	Leipprandt Bros.
Port Huron	Paterson	Standard Auto Co.
Richmond	Ford	M. E. Fitzgerald
Wakeland	Regal	Gust Mellstrom
MISSOURI		
Rutte	Apperson	P. J. Holmes
Farley	Hupmobile	A. E. Fankavel

Motor Car Securities Quotations

No quotations for the corresponding date in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	August 14, 1915	Bid	Asked
Ajax-Grieb Rubber Co., com.	100	100	100
Ajax-Grieb Rubber Co., pfd.	100	100	100
Aluminum Castings, pfd.	100	100	100
Chalmers Motor Co., com.	100	100	100
Chalmers Motor Co., pfd.	100	100	100
Firestone Tire & Rubber Co., com.	100	100	100
Firestone Tire & Rubber Co., pfd.	100	100	100
General Motors Co., com.	100	100	100
General Motors Co., pfd.	100	100	100
B. F. Goodrich Co., com.	100	100	100
B. F. Goodrich Co., pfd.	100	100	100
Goodyear Tire & Rubber Co., com.	100	100	100
Goodyear Tire & Rubber Co., pfd.	100	100	100
International Motor Co., com.	100	100	100
International Motor Co., pfd.	100	100	100
Kelly-Springfield Tire Co., com.	100	100	100
Kelly-Springfield Tire Co., 1st pfd.	100	100	100
Kelly-Springfield Tire Co., 2nd pfd.	100	100	100
Maxwell Motor Co., com.	100	100	100
Maxwell Motor Co., 1st pfd.	100	100	100
Maxwell Motor Co., 2nd pfd.	100	100	100
Miller Rubber Co., com.	100	100	100
Miller Rubber Co., pfd.	100	100	100
Packard Motor Car Co., com.	100	100	100
Packard Motor Car Co., pfd.	100	100	100
Peerless Motor Car Co., com.	100	100	100
Peerless Motor Car Co., pfd.	100	100	100
Portage Rubber Co., pfd.	100	100	100
*Reo Motor Truck Co., com.	100	100	100
*Reo Motor Car Co., com.	100	100	100
Stewart-Warner Speed. Corp., com.	100	100	100
Stewart-Warner Speed Corp., pfd.	100	100	100
Studebaker Corp., com.	100	100	100
Studebaker Corp., pfd.	100	100	100
Swinehart Tire & Rubber Co., com.	100	100	100
U. S. Rubber Co., com.	100	100	100
U. S. Rubber Co., 1st pfd.	100	100	100
White Co., pfd.	100	100	100
Willis-Overland Co., com.	100	100	100
Willis-Overland Co., pfd.	100	100	100

*Par value \$10; all others par value \$100.

Place	Car	Dealer
Kansas City	Vim	Chamberlain & Goodloe
Oregon	Hupmobile	Cordroy Co.
Sweet Springs	Oldsmobile	O. H. Witcher

Coming Events

*Indicates sanction by A. A. A.

Aug. 20-21	Elgin, Ill.—Elgin road races, Chicago Automobile Club.*
Aug. 25-26	Newport, Ind.—Hill climb, Newport Motor Club.*
Aug. 28	Kalamazoo, Mich.—100-mile track race, Kalamazoo Motor Speedway.*
Sept. 4	Twin City, Minn.—Speedway race meet, Twin City Motor Speedway.*
Sept. 11	Burlington, Ia.—Track race meet, Tri-State Affair.
Sept. 17-18	Peoria, Ill. Convention of Garage Owners Association of Illinois.
Sept. 18	Providence, R. I.—Speedway race meet, Narragansett Park Speedway.*
Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
Oct. 2	New York—Speedway race meet, Sheepshead Bay Speedway Corp.
Oct. 4, 5 and 6	Columbus, O.—State convention; Columbus Garage Owners' Association.
October 7	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.
Oct. 9	Indianapolis, Ind.—100-mile Invitation Race, Motor Speedway.
Oct. 16	Chicago—Speedway race meet, Speedway Park Association.*
Oct. 18-19	Cleveland, O.; Hotel Statler; Sixth Annual Convention, Electric Vehicle Assn. of America.

THE SHOW CIRCUIT

Aug. 30-Sept. 3..Columbus, O.—Automobile show; Columbus Automobile Show Co.; Ohio State Fair.

Aug. 26	Ventura, Cal.; show.
Sept. 6-10	Indianapolis, Ind.; show, Indiana State Fair.
Sept. 6-9	Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
Sept. 6-15	Detroit, Mich.; show, Michigan State Fair.
Sept. 13-17	Milwaukee, Wis.; show, Milwaukee Automobile Dealers, Inc.
Sept. 17-18	Milwaukee—Show at State Fair by Milwaukee Automobile Dealers' Association.
Sept. 18-25	Los Angeles, Cal.; Broadway Automobile and Flower show, Automobile Dealers Assn.
Sept. 27-Oct. 10	Denver, Col.; show, International Soil Products Exposition, Automobile Trades Assn. of Colorado.
Oct.	Dallas, Tex.; show, Dallas Automobile Dealers Assn.
Oct. 2-9	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Oct. 3-10	Annual show, St. Louis Automobile Mfgs. & Dealers Association.
Oct. 6-16	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Nov. 1-3	Pasadena, Cal.; show; Hotel Green. Walter Hempel.
January 1-8	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
January 22-29	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
Jan. 29-Feb. 5	Minneapolis Winter Show; Minneapolis Automobile Trade Assn.; National Guard Armory.
March 4-11	Boston, Mass.—Fourteenth Annual Show; Boston Auto. Dealers Assn.; Boston Commercial Vehicle Assn.

MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 8

New York, August 25, 1915

Ten cents a copy
Two dollars a year

Invest \$22.86 in Red Head Plugs and Make Profitable, Big Sales

Through This Cabinet Leased Free to Garages, Repair Shops and Supply Dealers



The cabinet covers the spark plug requirements in a compact form and it is convenient for your customers. It will be the center of attraction in your store or garage. It will be the drawing card that will secure for you the spark plug business in your territory. It speaks for itself—it will act as your “silent salesman.”

The alphabetical car and engine index thinks for you—tells you the size and type of plug required—and the right plug is in the Cabinet. No time lost—no sales lost.

With the Cabinet you will receive a full assortment of advertising matter, attractive window display material, street signs, indoor signs, etc.—in fact, the Cabinet will put you on the RED HEAD map.

It contains an assortment of 50 RED HEADS—Standard plugs for all leading cars—Ford, Overland, Reo, Maxwell, Studebaker, Buick, Chalmers, Hudson, etc., also Big Boy plugs for high powered cars and tractors.

Buy the Cabinet that fits your business: No. 50 contains 50 plugs—your cost \$22.86; No. 100 contains 100 plugs, including higher priced types—your cost \$49.66.

Place your order at once through your jobber or direct.

Emil Grossman M'f'g Co. Inc.

BUSH TERMINAL (Model Factory No. 20)

BROOKLYN (New York City) U. S. A.

MESTRE & BLATDE, Representatives in Great Britain, London, Eng.

USED by all motor car manufacturers who select by testing---

by all dealers and repair men who have looked carefully into the subject of brake lining---

by all car owners who have compared wearing qualities---

That's
MULTIBESTOS

Standard Woven Fabric Company

FACTORY, FRAMINGHAM, MASSACHUSETTS

New York Branch and Export Office, 1779 Broadway

Boston—F. Shirley Boyd, 175 Massachusetts Ave.

Philadelphia—N. A. Petry Co., Inc., 1309 Race Street

Chicago—F. E. Sparks, 1430 Michigan Boulevard

San Francisco—Fred Ward & Son, Inc., Corner First and Howard Streets

MULTIBESTOS

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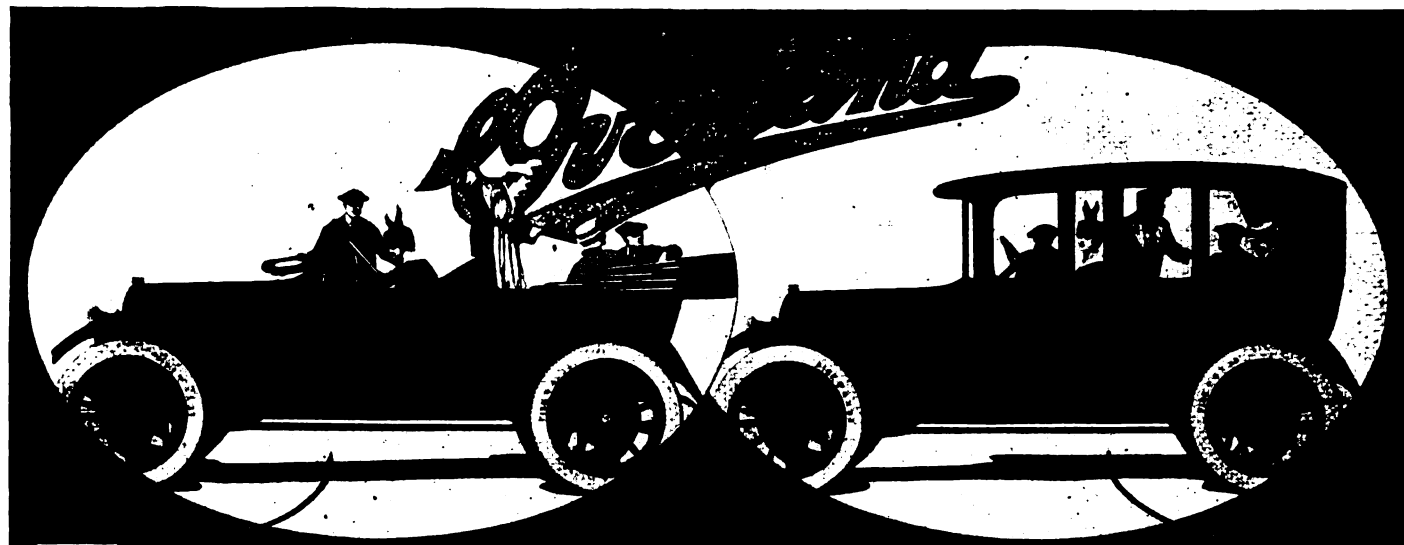
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This car
— with this additional limousine top —
all for \$950
f. o. b. Toledo

Overland Model 83 with this Detachable Limousine Top makes a most comfortable and attractive closed car.

In warm weather you have your touring car, with one man top, windshield and side curtains.

In cold weather you have a comfortable limousine.

There are four wide, full length limousine doors, with windows that open and close easily. The other windows are also large, making the interior light and pleasant.

For inside light at night there is a nickel-framed electric dome over the tonneau controlled by a switch on the right seat arm.

The interior is trimmed throughout, sides, back and ceiling with rich gray cloth in harmony with the upholstery. Dainty silk draperies are at the rear side windows and a roll-up curtain at the rear window.

This top was *designed with the car*. It belongs to the car and looks as if it belonged there.

Ask the Overland dealer in your city to show you Model 83 with the Limousine Top.

Or—if you already have an Overland Model 83, the top can be *supplied separately*.

Limousine top for Model 83 Touring Car	\$200 f. o. b. Toledo
Coupe top for Model 83 Roadster	\$150 f. o. b. Toledo

"Made in U. S. A."

Write for an illustrated folder descriptive of the Detachable Limousine Top. Please address Dept. 482



The Willys-Overland Company, Toledo, Ohio

Also Manufacturers of Willys-Knight Automobiles

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, August 25, 1915

No. 8

Ten Guards Against Business Loss in the Sale of Accessories

They Have Been Worked Out by a Specialist in This Business and Apply to the Garage Accessory Department

AS TO STOCK

- 1—Have a complete stock.....It will Satisfy the customer
- 2—Watch it. Keep it complete.....It will Retain his patronage
- 3—Keep it moving.....It will Satisfy you

AS TO DISPLAY

- 1—Display conspicuously.....It will Compel attention
- 2—Keep display clean.....
- 3—Keep it neatly arranged.....
- 4—Do not crowd display.....
- 5—Avoid a jumble.....
- 6—Polish plated goods.....It will Arouse customer's desire more quickly
- 7—Change display frequently.....It will Keep people looking at your store

SUCCESS in accessory and supply sales comes through certain methods. The man who specializes in this business is an authority on those methods, and his methods may be employed by the accessory merchandiser whose place of business is only a small garage in a small town or a big garage in a big town.

One of the specialists in accessory and supply merchandising is the Gaul, Derr & Shearer Co., which is at 217 North Broad street, Philadelphia, the heart of the city's Motor Row.

G. B. Shearer, of this firm, says that all there is to it is to get the customer's repeat order. He will help boost your trade and the establishment will thrive and grow. For the benefit of Motor

SHEARER MAXIMS

IF—

"I have been following the campaign for cleanliness in Motor World, the like of which has never before been brought to my notice, and it is a great thing. Motor World is accomplishing a great good for the dealers and garagemen IF they will only put into operation the suggestions found in its pages."—G. B. Shearer, of the Gaul, Derr & Shearer Co.

World's readers Shearer has laid down a few principles of accessory merchandis-

ing. They are both stepping stones to profits and safeguards against loss. They are listed above and are described in detail as follows:

AS TO STOCK

1—HAVE A COMPLETE STOCK. When the garageman puts out a sign which says: "Accessories and Supplies," the sign should mean all it says. The little, old-fashioned drug store, which handles about two brands of cigars and three brands of tobacco doesn't begin to have the patronage of the store which carries a stock from which the buyer can select. Buyers of goods go to the New York and foreign markets every year because in those markets there is a wide selection. The same thing ap-



THE STORE LAYOUT. The woodwork is of a mission finish. The floor is spotlessly clean. Below the wall cabinets at the left are four tiers of drawers, on the outside of each drawer being a plain mark as to the contents. Each tire rack is full; there are no empty spaces, indicating an incomplete stock; and each tire size is plainly marked. There are 96 compartments. The center of the floor is used to display heavy articles. The offices are at the rear

plies to the accessory store—large or small.

2—WATCH THE STOCK. Keep it complete. When the car owner discovers that in a certain garage he can get practically anything he wants he will come again. If he asks for something and is told it isn't in stock and if he has this experience on several occasions he will get out of the habit of asking for the things he needs. He will go to the place which keeps a complete stock. When a man asks for something you have not in stock, get one for him and a couple more for the stock.

3—KEEP THE STOCK MOVING. In selling goods it is best to sell from those which have been longest in stock, provided they have not become shelf-worn. As new goods are received when the reserve gets low, keep an eye on them and arrange to sell the older reserve before the newer order is touched. This will tend to prevent any of the goods becoming shop-worn. Shop-worn goods represent a loss.

A BARGAIN TABLE. Should any goods move slowly, or should they become shop-worn, put them in a certain part of the store which is styled a bargain counter. Mark the prices down to where the figure will make the goods an attraction. There probably will always be articles of this kind, although the proprietor should endeavor to have as few as possible. However, a dollar that is tied up in stock and which gives no

sign of moving is an idle dollar. It is better to get 60 cents of it out and put it to work than to let the dollar hang around until it dwindles to 40 cents.

The Gaul, Derr & Shearer Co. maintains such a table and finds it very successful. Motor World also has found several garagemen who are using a similar method.

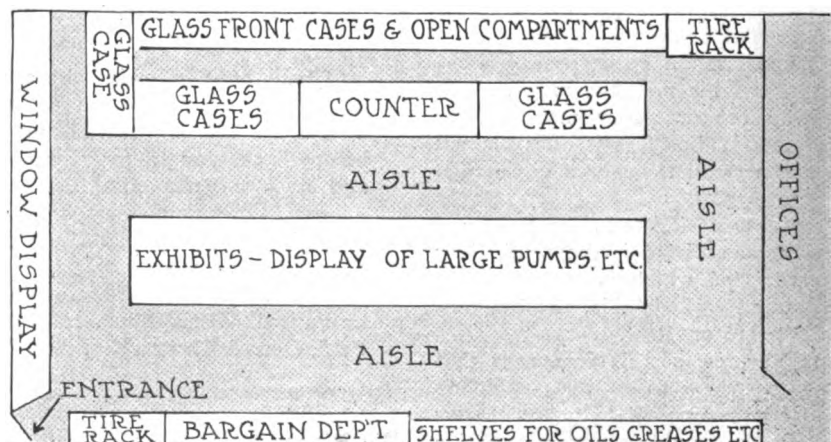
AS TO DISPLAY

1—DISPLAY CONSPICUOUSLY. A display that is not where the man who enters the store cannot fail to see it is working at only part of its possible efficiency. In a garage the display should be alongside the runway where it is seen by every man who drives in or out of

the garage door. Thrust it into his face every day in the year and impress upon him the fact that the garage sells accessories. If the display is at the back of the office it fails, because few men enter the office compared with the number who go in and out the garage door.

If the garage is on a street where there is traffic there should be a window display. There also should be a display of some sort in the office. Both this and the runway display can be effected by a two-sided runway cabinet. These methods COMPEL attention.

2—KEEP THE DISPLAY CLEAN. Goods that are covered with dust and cobwebs are not an attraction. A show case that is in need of a soap and water



FLOOR PLAN OF THE GAUL, DERR & SHEARER STORE

bath is not a show case—it is a hiding case for goods. Keeps the floors clean, keep the windows clean, remove all traces of dust and dirt. Make the display look like that in an up-to-date city grocery store. Mop the office floor every morning and dust things off every day—or twice a day. Lack of soap and water and a dusting rag is responsible for many business failures.

3—KEEP THE DISPLAY NEATLY ARRANGED. Have some system of placing the goods. Make the arrangement symmetrical.

4—DO NOT CROWD THE DISPLAY. Too many goods are almost as bad as none at all. There is no better way of finding out the difference than

NO STORE IS SO GOOD IT CANNOT BE BETTER

"While we have what we consider a first-class arrangement at the present time, I keep watching for suggestions in Motor World that will improve this arrangement."—P. P. Shearer, of the Gaul, Derr & Shearer Co.

by studying other windows. Notice windows which are considered good and you will find that there is an absence of crowding. An excellent window can be made with but one article, providing the setting is right. By having not too many goods the eye of the prospect is made to concentrate on what is shown. If there is too much nothing is properly emphasized.

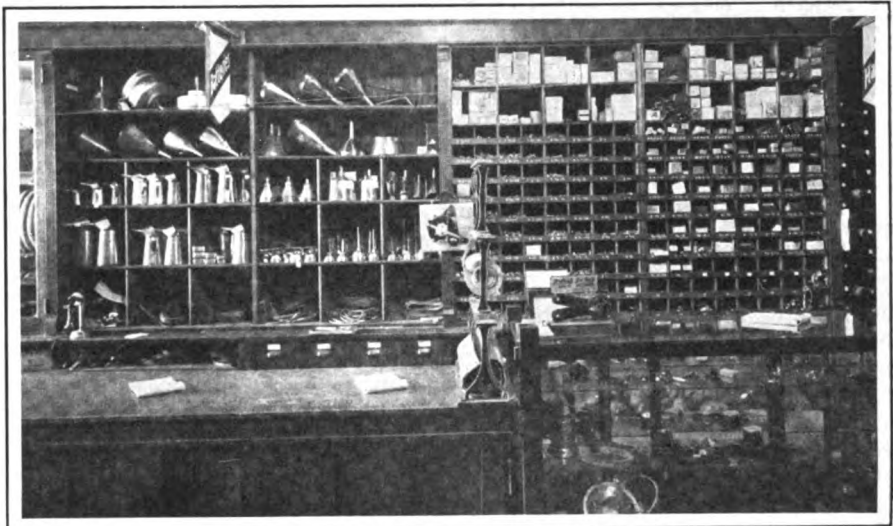
5—AVOID A JUMBLE. A jumble is made up of too many articles, lack of neat arrangement and general disorder. Jumble sounds like jungle and they are much alike. Physical progress through a jungle is difficult; mental and visual progress in a jumble is the same. The observer is supposed to be led through

A TRAVELING STORE is operated by the Gaul, Derr & Shearer Co. In it are 160 compartments. A complete line is carried. The salesman makes the sale and delivers the goods on the spot.

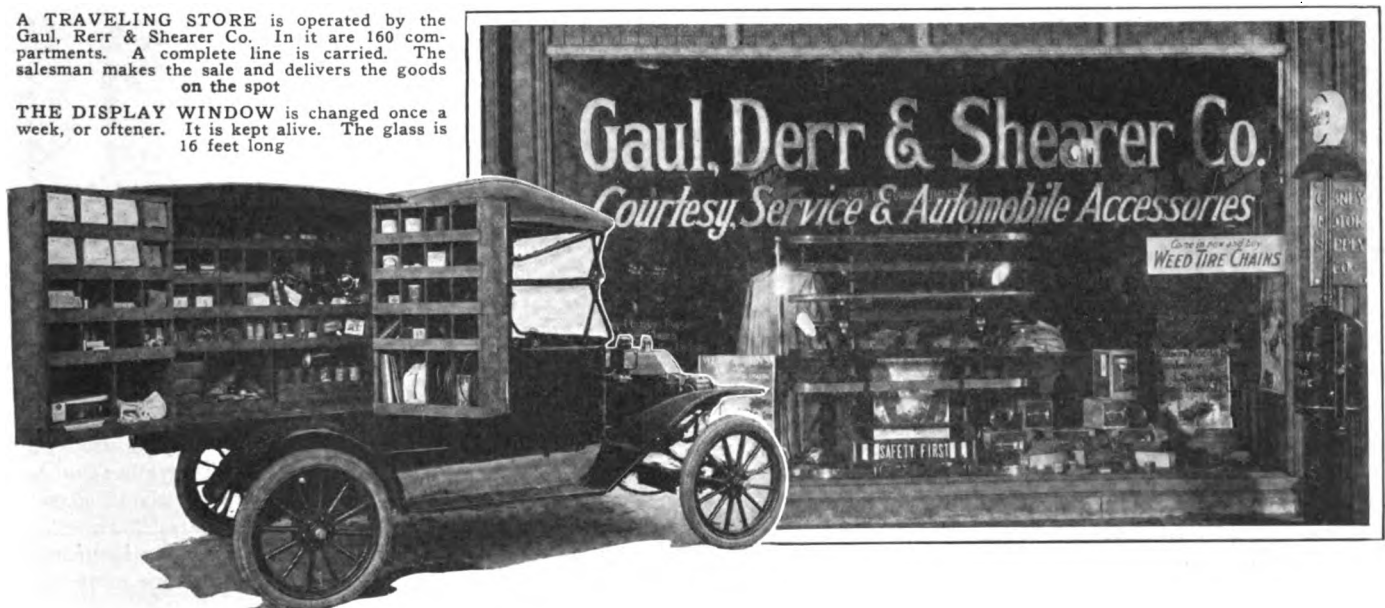
THE DISPLAY WINDOW is changed once a week, or oftener. It is kept alive. The glass is 16 feet long



THE BARGAIN COUNTER. Goods that have sold down to small lots and that are moving slowly, goods that have become shop-worn, odds and ends and anything the company wants to turn over quickly are placed in this bargain department. It has been a success



NEATNESS AND ORDER are a rigid rule in the Gaul, Derr & Shearer store. The oil cans and funnels, wiped clean and glistening, are an attraction; even the small nut and bolt compartments have been made to look well. No compartment is permitted to become empty



the display to the cash drawer. But he seldom makes the passage if he has to go through a jumble.

6—POLISH PLATED GOODS. A little rubbing makes all the difference in the world with the appearance of a brass or nicked accessory. A horn that is tarnished is not attractive; if it is polished up and made to shine as it did when it came from the factory it is much more attractive to the car owner. Some men cannot resist the lure of polished metal. If two pairs of pliers lay side by side, one dull and one polished, which would appeal the strongest? The polished pliers, of course. Everything that is put into a display case should be polished, wiped and dusted. This makes the display what it should be—an eye-catcher.

7—CHANGE THE DISPLAY FRE-

QUENTLY. Why are electric signs made to change colors? To attract attention. Why does a woman desire many gowns? To make herself attractive. The same thing applies to the display window. If it is never changed it will not maintain a continued attention. It may draw wonderful attention the first week, but thereafter interest will wane and wane and keep on waning until it dies out entirely.

If there is a new display this week, the public will look at it. If there is a new display next week the public will look again. If there are new displays every week the public will be kept looking all the time—and that makes the public buy. If the 'possum lies still long enough the hunter may think he is dead. A display should never be let, to play 'possum.

UPON entering the Gaul, Derr & Shearer store the first impression is that of order, neatness and cleanliness, combined with a refreshing air of business activity. The interior woodwork is mission, an excellent foil for the numerous all-glass show cases.

Accessibility is noted everywhere. No time is lost in a slipshod arrangement or misplacement of articles. The illustrations with this story show well the show case, shelf and rack arrangement.

This company issues a monthly house organ, the Gadesh News, the Gadesh being made up of the Ga of Gaul, the De of Derr and the Sh of Shearer. Its slogan is Courtesy, Service and Accessories. Every article sold bears the company's guarantee as well as that of the maker, which assures confidence in the accessory dealer.

Touring Suggestion Window Should Catch Vacation Motorists

**Simplicity Main Feature —
Expense Slight — Display
Should Be Changed
Frequently**

The touring suggestion window shown herewith is a simple but effective appeal to the eye of the motorist; it will bring results yet costs little either from a time or money standpoint.

As the window shows, the display consists of articles of everyday need to the motorist such as a monkey wrench, pliers, jack, screwdriver, hammer and tow-line. Usually at least one of these items is missing from the tool kit of the motorist; and in any case their presence is likely to suggest something that he needs if he is supplied with the tools shown.

The construction of the window is almost too simple to require any description. In case there is no back to the window, a framework must be constructed; this may be temporary but preferably it should be permanent, in which case the upper half of the back should be of glass to allow light to the interior of the store.

Great care should be used in selecting the colors, as the success of the scheme depends largely on the appeal they make to the eye. Since the predominant idea is touring and this suggests Nature, the most acceptable color is probably green, and two or three shades may be used in combination. The floor and sides of the window may well be covered with an olive green crepe paper while the large cardboard sign might be a lighter green, with the lettering in black. The raised platform on which the display is laid should either be stained green or coated

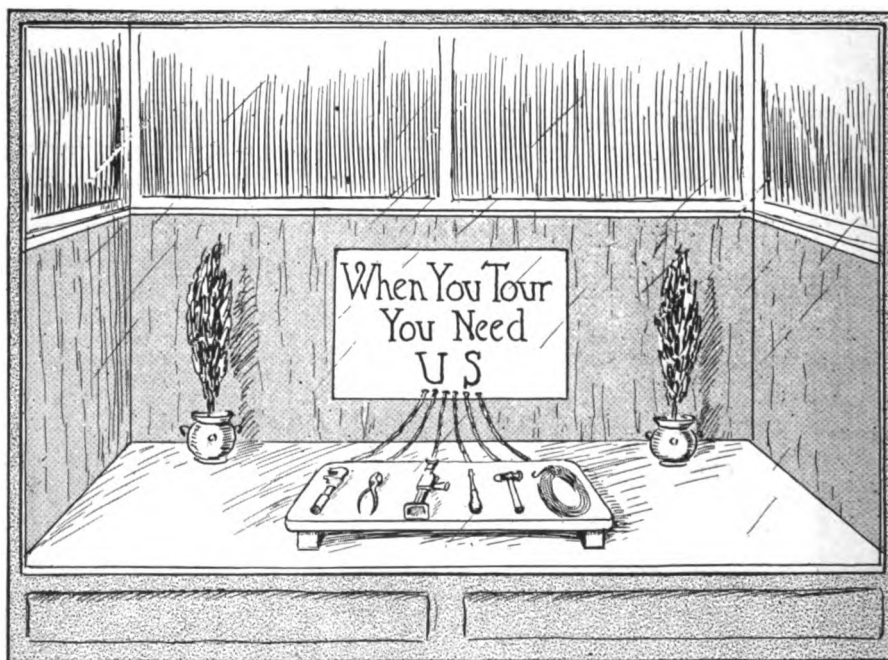
with a natural wood varnish. Potted plants at each side complete the window.

The cost of this window should be very slight. The plants may be borrowed or rented from a florist. The board may be made, or if this is not feasible, an ordinary drawing board of suitable size will do admirably. The crepe paper can be obtained from almost any stationery store.

for the purpose of talking things over, making criticisms and suggestions.

If a mechanic wants some new device he asks for it and gives his reasons for desiring it, then the question is discussed and if it seems advisable his request is granted.

If a salesman has a new scheme for selling cars, or if the gasoline boy wants a change made in the method of selling



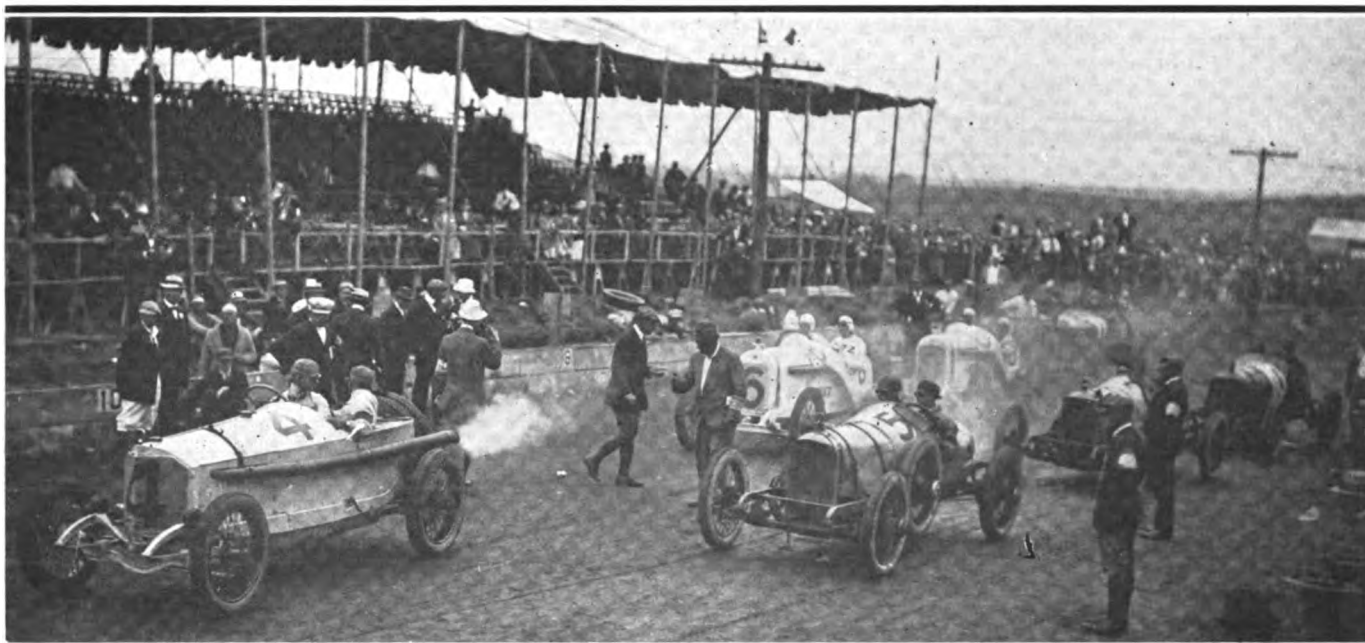
In dressing this window it must be kept in mind that the main idea is simplicity; it may be spoiled by piling too many things in it. Better put only a few articles on display at one time and change them frequently.

Weekly Conferences Valuable Feature

Weekly conferences of all employees are held by F. A. Bryan, owner of Bry-

an's Garage, Lima, O., and Buick dealer, gasoline and oil, it is discussed.

The idea of the conference is to keep up interest, keep each employee informed concerning what the others are doing, and to get all to work together and help each other to attain a higher state of efficiency, and Bryan states that the benefits accruing from these conferences are many, many times the value of the time.



De Palma, first car to start, getting under way in the race Friday for the Chicago Athletic Club trophy. The white Stutz team is visible in the center of the group

Stutz Pilots Defeat All Comers at Elgin Shattering Previous Marks

Anderson Takes Elgin at 77.2 m.p.h. with Cooper Second and Cooper Takes Chicago Trophy at 75 m.p.h with Anderson Second—O'Donnell Duesenberg Third First Day and Oldfield Third Second Day

ELGIN, ILL., Road Race Course, August 21—Two more coveted racing trophies have joined the Stutz camp, and the Stutz racing cars considerably more than came into their own when Earl Cooper finished first in the race yesterday for the Chicago Athletic Club trophy with his teammate Anderson second, and Anderson finished first in the race for the Elgin National trophy today with Cooper second. Both races were run over the 8.38-mile classic course on the outskirts of Elgin and both went for 301 miles.

Friday Earl Cooper won from a field of nine starters, averaging 74.979 miles per hour, with Anderson averaging 73.859 miles per hour, the two defeating such road racing masters as Barney Oldfield, who was third in his new Delage, and De Palma, who had trouble with his Mercedes that captured both races a year ago and who broke a valve rocker arm, covering but little over 100 miles.

While yesterday saw Elgin road records fall, today's race toppled existing records like the proverbial house of cards. Anderson averaged 77.256 m. p.

h., over 2 miles higher than the Friday pace, and Cooper at 76.258 m. p. h., was also well ahead of all previous marks;

HITTING THE HIGH SPOTS

Fastest Laps Over 8.38-Mile Course in C. A. C.

Trophy Race				
Driver and Car	Lap	Time	M.P.H.	
Cooper, Stutz.....	16	6:26	78.206	
Anderson, Stutz.....	13	6:26	78.206	
De Palma, Mercedes.....	7	6:27	77.955	
Oldfield, Delage.....	16	6:36	76.227	
O'Donnell, Duesenberg....	15	6:44	74.721	
Alley, Ogren.....	11	6:44	74.721	
Henderson, Duesenberg....	8	7:01	71.607	
Brown, Du Chesneau.....	15	8:01	62.754	
Justin, Cornelian.....	7	10:31	47.836	

Fastest Laps Over 8.38-Mile Course in Elgin

National Trophy Race				
Driver and Car	Lap	Time	M.P.H.	
De Palma, Mercedes.....	36	6:15.85	80.496	
O'Donnell, Duesenberg....	26	6:18	79.857	
Anderson, Stutz.....	17	6:19	79.642	
Cooper, Stutz.....	3	6:26	78.206	
Chandler, Duesenberg....	15	6:39	75.645	
Oldfield, Delage.....	25	6:40	75.461	
Burt, Stutz.....	3	6:46	74.346	
Henderson, Duesenberg....	8	6:48	73.985	
Henning, Mercer.....	2	6:51	73.445	
Robillard, Lozier.....	4	8:00	62.887	
Jones, Du Chesneau.....	1	8:14	61.108	

in fact, today was a record breaking day, as all four cars finishing averaged over 75 m. p. h. This speed is best realized when compared with the 1914 mark of 73.5 and yesterday's mark of 74.97.

Today's race for the Elgin National trophy, with \$4,200 cash divided among the winners, was not only the fastest ever held on the course, but furnished one of the most spectacular finishes in the history of American road racing. The four finishers all completed the 301 miles inside a 5-min. interval.

Anderson was first over the tape and had 1 minute road lead over Cooper. De Palma was the second to cross the tape, but he had a road lead of 2 minutes on Cooper, the cars being started at intervals of 30 seconds. Approaching the finish Cooper had been leading De Palma, but on the second last lap the Mercedes passed the Stutz and the grandstand wondered if Cooper's lead could be overcome. When De Palma hove into sight over the top of Briton's hill a quarter mile from the grandstand, where the finish line was, everybody watched the scoreboard to see where

Table Showing Times for Each Lap of the 301-Mile Race for the Elgin National

Car	Driver	Lap Distance	1 8 M. 2030 Ft.	2 16 M. 4060 Ft.	3 25 M. 810 Ft.	4 33 M. 2840 Ft.	5 41 M. 4870 Ft.	6 50 M. 1620 Ft.	7 58 M. 3650 Ft.	8 67 M. 400 Ft.	9 75 M. 2430 Ft.	10 83 M. 4460 Ft.	11 92 M. 210 Ft.	12 100 M. 3240 Ft.	13 108 M. 5270 Ft.	14 117 M. 2020 Ft.	15 125 M. 4050 Ft.	16 134 M. 800 Ft.	17 142 M. 2730 Ft.	18 150 M. 4860 Ft.
Stutz	Anderson	Time	6:59	13:35	20:12	26:43	33:12	39:40	46:07	52:34	59:03	1:05:37	1:12:01	1:18:25	1:24:51	1:31:22	1:37:44	1:44:07	1:50:26	1:56:49
Stutz	Cooper	Lap	6:36	6:37	6:31	6:29	6:28	6:27	6:27	6:29	6:34	6:28	6:24	6:26	6:31	6:22	6:23	6:19	6:23	6:23
Duesenberg	O'Donnell	Lap	6:44	13:12	19:38	26:01	32:38	39:11	45:41	52:12	58:42	1:05:17	1:11:49	1:18:27	1:25:03	1:31:28	1:37:57	1:44:48	1:51:05	1:57:32
Mercedes	DePalma	Lap	6:57	13:40	20:24	27:05	33:48	40:36	47:16	53:59	1:00:38	1:07:16	1:14:04	1:20:38	1:27:14	1:33:49	1:40:26	1:46:57	1:53:36	2:00:08
Delage	Oldfield	Lap	6:47	13:27	20:05	26:44	33:24	40:07	46:50	53:32	59:59	1:06:35	1:13:15	1:19:58	1:26:47	1:33:38	1:40:14	1:46:52	1:53:41	2:00:23
Mercer	Henning	Lap	7:07	13:56	20:44	27:34	34:33	41:23	48:17	55:10	1:03:03	1:09:54	1:16:45	1:23:37	1:30:24	1:37:12	1:43:55	1:51:08	1:59:44	2:06:33
Duesenberg	Chandler	Lap	7:22	14:13	21:32	28:27	35:22	42:36	49:56	56:53	1:04:02	1:11:53	1:22:19	1:29:43	1:37:12	1:44:15	1:51:30	1:58:44	2:05:45	2:13:04
DuChesneau	Brown	Lap	7:12	14:05	20:55	27:42	34:34	41:19	48:19	55:15	1:02:03	1:08:51	1:15:41	1:22:31	1:29:24	1:36:12	1:43:05	1:50:00	1:57:00	2:04:00
Duesenberg	Henderson	Lap	8:14	16:40	25:24	34:10	42:56	51:42	1:00:19	1:09:07	1:17:35	1:26:48	1:35:46	1:44:48	1:53:20	2:03:58	2:12:34	2:21:32	2:30:19	2:39:46
Stutz	Burt	Lap	6:59	14:15	21:22	29:02	36:09	43:15	50:42	57:30	1:04:33	1:11:14	1:18:54	1:26:08	1:33:26	1:40:33	1:47:56	1:55:27	2:02:58	2:10:18
Lozier	Robillard	Lap	8:29	16:40	24:45	32:45	40:51	50:38	1:03:16	1:13:46	1:24:59	2:02:56	Disqualified							
Dedietrich	Buzane	Lap	1:03:04	Out	broken crank	shaft at 5 miles														

Cooper was. The moving figures showed him close behind. A few seconds later De Palma got the checkered flag at the grandstand and scarcely had he received it when the white Stutz shot into view over the hill crest. It was Cooper. Ten seconds more he, too, had the black-and-white flag and was in second place. Two finishers had flashed across the tape at over 100 m. p. h. in less than 15 seconds.

Third Place by 15 Seconds

But this did not end the suspense. It was not yet certain whether De Palma was to be third or not. O'Donnell (Duesenberg) was in the home stretch. He had started 30 seconds back of the Mercedes, so that when De Palma crossed the tape O'Donnell had 30 seconds left to cross the tape and still capture third money. Again all eyes were on the crest of Briton's mill, watches were in all hands, seconds were being counted off. But there was not long suspense. Scarcely had the starter's flag dropped to the ground than the scoreboard with its moving figures showed O'Donnell nearing the crest, a second more and he shot over it. Ten seconds later he finished.

He had captured third place. There was easily time enough for him to cross the tape and when he waved off he had just nosed into third place by 15 seconds over De Palma.

Thus within the short space of 4 minutes and 51 seconds the first four cars had finished; the other four cars still running were over 30 miles back and the race was declared off, the remaining cars being flagged. It was the most exciting minutes and seconds that road-race enthusiasts have been treated to in many years, one of the rare instances in road racing, a fitting climax to a record-breaking day.

De Palma Is Put Out Early

Friday's race was not so spectacular. Early in the race it was a foregone conclusion that Stutz cars had it all their own way from the early miles. De Palma stopping at 40 miles to repair a broken rocker arm and losing 1 hour. There was no hope of his even being a contender, but he went out for some of the 100-mile cash that was offered. In the meantime Barney Oldfield was experiencing some of his customary bad luck. He stopped at the end of the first

lap to change a right rear tire, his pit men doing poor work with the hand jack and the stop taking 73 seconds. This handicapped him and it was soon seen that his new Delage, which was its second American contest was not yet tuned up and would not be able to battle on even terms with the Stutz machines. Barney's fastest lap was 6:36, as compared with 6:26 for the Stutzes. The two Duesenbergs were setting a little slower pace, the fastest lap being 6:37, leaving the real strife of the day to the two Stutz cars. The Ogren, driven by Thomas Alley, eventually landed in fourth place, putting the Duesenberg fifth. The other five cars that started had dropped out.

Cord Tires Lasted Wonderfully

Racing conditions on the course were ideal for time except for high winds, which held the cars back Friday; and Saturday the oiled road was slippery in places, owing to a heavy all-night rain Friday which lay in pools. Fortunately the high wind dried them, but the course was not at record speed until the race was three-quarters over. As a result, the lap record of 6:11 established last year

Table Showing Time for Each Lap of the 301-mile Race for the Chicago

Car	Driver	Lap Distance	1 8 M. 2030 Ft.	2 16 M. 4060 Ft.	3 25 M. 810 Ft.	4 33 M. 2840 Ft.	5 41 M. 4870 Ft.	6 50 M. 1620 Ft.	7 58 M. 3650 Ft.	8 67 M. 400 Ft.	9 75 M. 2430 Ft.	10 83 M. 4460 Ft.	11 92 M. 210 Ft.	12 100 M. 3240 Ft.	13 108 M. 5270 Ft.	14 117 M. 2020 Ft.	15 125 M. 4050 Ft.	16 134 M. 800 Ft.
Stutz	Cooper	Elap. Time	6:54	13:28	20:03	26:31	33:02	39:30	46:04	52:36	59:08	1:05:41	1:12:14	1:18:45	1:25:17	1:31:51	1:38:25	1:44:51
Stutz	Anderson	Lap Time	6:34	6:34	6:35	6:28	6:31	6:28	6:34	6:32	6:32	6:33	6:33	6:31	6:32	6:34	6:34	6:26
Delage	Oldfield	Elap. Time	7:27	14:25	20:56	27:23	33:56	40:26	46:07	52:43	59:15	1:05:51	1:12:21	1:18:54	1:25:20	1:31:47	1:38:18	1:44:49
Ogren	Alley	Lap Time	7:13	7:27	7:02	6:31	6:27	6:33	6:30	6:31	6:36	6:32	6:36	6:33	6:26	6:27	6:31	6:31
Duesenberg	O'Donnell	Elap. Time	7:24	14:38	21:44	28:51	35:57	42:57	49:57	56:53	1:03:55	1:10:51	1:17:47	1:24:47	1:31:44	1:38:39	1:45:23	1:52:07
De Chesneau	Brown	Lap Time	8:20	16:35	24:48	32:52	41:01	49:35	57:58	1:06:15	1:14:30	1:22:48	1:31:02	1:39:17	1:48:35	1:56:50	2:04:51	2:13:13
Mercedes	De Palma	Elap. Time	6:36	13:09	19:44	26:35	33:44	40:51	48:09	55:17	1:02:34	1:09:51	1:17:07	1:24:22	1:31:39	1:38:56	1:46:13	1:53:30
Duesenberg	Henderson	Lap Time	7:22	15:19	21:36	28:41	35:44	42:46	49:50	56:51	1:03:52	1:10:59	1:18:07	1:25:14	1:32:21	1:39:28	1:46:35	1:53:42
Cornellian	Justin	Elap. Time	21:23	1:16	1:26:43	1:42:14	1:58:21	2:15:37	2:32:08	2:48:02	3:04:39	3:21:18	3:38:26	3:55:44	4:13:02	4:30:20	4:47:38	5:04:56

Trophy at Elgin, Saturday, August 21, Over the 8 38 Mile Road Course

19 159 M. 1610 Ft.	20 167 M. 3640 Ft.	21 176 M. 390 Ft.	22 184 M. 2420 Ft.	23 192 M. 4450 Ft.	24 201 M. 1200 Ft.	25 209 M. 3230 Ft.	26 217 M. 5260 Ft.	27 226 M. 2010 Ft.	28 234 M. 4040 Ft.	29 243 M. 790 Ft.	30 251 M. 2820 Ft.	31 259 M. 4850 Ft.	32 268 M. 1600 Ft.	33 276 M. 3650 Ft.	34 285 M. 380 Ft.	35 293 M. 2410 Ft.	36 301 M. 4440 Ft.	Miles per Hour	Order of Finish
2:03:15	2:09:38	2:16:34	2:23:09	2:29:33	2:35:56	2:42:20	2:48:48	2:55:19	3:01:45	3:08:18	3:14:51	3:21:22	3:27:54	3:34:27	3:41:00	3:47:41	3:54:25	77.256	1
6:26	6:23	6:56	6:35	6:24	6:23	6:24	6:28	6:31	6:26	6:33	6:33	6:31	6:32	6:33	6:33	6:41	6:44	76.258	2
2:04:03	2:10:35	2:11:12	2:24:12	2:30:59	2:37:38	2:44:26	2:51:20	2:57:52	3:04:32	3:11:07	3:17:49	3:24:19	3:31:09	3:37:41	3:44:21	3:50:58	3:57:29	75.769	3
6:31	6:32	6:37	7:00	6:47	6:39	6:48	6:54	6:32	6:40	6:35	6:42	6:30	6:50	6:32	6:40	6:37	6:31	75.690	4
2:06:47	2:13:20	2:49:49	2:26:18	2:32:45	1:29:18	2:46:29	2:52:35	2:59:11	3:05:47	3:12:17	3:18:51	3:25:23	3:33:21	3:39:41	3:46:00	3:52:41	3:59:01	75.690	5
6:41	6:33	6:29	6:29	6:27	6:33	7:09	6:18	6:36	6:36	6:30	6:34	6:32	7:58	6:20	6:19	6:41	6:20	75.690	6
2:06:59	2:13:23	2:20:05	2:26:40	2:33:50	2:40:56	2:47:36	2:54:21	3:01:09	3:08:00	3:14:35	3:21:11	3:27:31	3:33:54	3:40:13	3:46:44	3:53:01	3:59:16	75.690	6
6:36	6:24	6:42	6:35	7:10	7:06	6:40	6:45	6:48	6:51	6:35	6:36	6:20	6:23	6:19	6:31	6:17	6:15	75.690	6
2:13:21	2:20:05	2:26:53	2:33:36	2:40:18	2:46:59	2:53:39	3:01:03	3:09:40	3:16:55	3:24:27	3:32:03	3:50:27							
6:48	6:44	6:48	6:43	6:42	6:41	6:40	7:24	8:37	7:15	7:32	7:36	18:24							
2:20:17	2:27:23	2:34:22	2:41:26	2:48:32	2:55:58	3:05:14	3:17:21	3:24:47	3:32:01	3:39:25	3:46:38	3:53:54							
7:13	7:06	6:59	7:04	7:06	7:26	9:16	12:07	7:26	7:14	7:24	7:13	7:16							
2:17:59	2:35:56	2:42:58	2:51:16	2:58:48	3:06:34	3:14:46	3:22:89	3:29:30											
8:20	17:57	7:02	8:18	7:32	7:46	18:12	7:43	7:01											
2:48:46	2:57:24	3:05:43	3:14:23	3:23:01	3:31:30	3:40:07	3:48:45	3:57:53											
9:00	8:38	8:19	8:40	8:38	8:38	8:28	8:38	9:08											

Out, or cracked timing gears, 150 miles

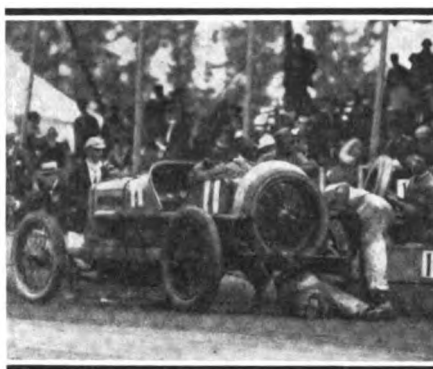
by Spencer Wishart in the Mercedes was not broken.

Never has a road race of such distances been run with so few tire stops. Adding the races of both days gives a total mileage of 603.66. Anderson's Stutz made this entire distance without a tire stop, a new road tire record. He used Silvertown cords. Cooper made but one tire change in both days, this being made the first day at 250 miles. O'Donnell's Duesenberg made but one change in both days. De Palma did not make a single change on his Mercedes, which covered 477 miles in the two days. Oldfield was the tire Jonah, changing one the first day and four the second, a total of five. Of the other cars, which were slower, only one or two tire changes were made. The entire race was a great demonstration of cord tires, which made their American debut in a road race, the Elgin course being a typical country gravel road with a well-oiled surface.

Typical Road Surface Prevailed

The road was scarrified last fall, all loose stones removed and the surface dragged regularly. Over a month ago it was oiled and to all intents and pur-

poses is a typical road, wide enough in all places for two cars to pass and in many places wide enough for three cars to race abreast at 100 m. p. h. It must be remembered in connection with this



One of the times when Oldfield rested for repairs to his Delage

tire performance that the track was cool. The sun scarcely shone on both days and the all-night rain Friday left the road particularly cool for Saturday.

Notwithstanding road and weather conditions it cannot be said that now tires are the weak links in racing and

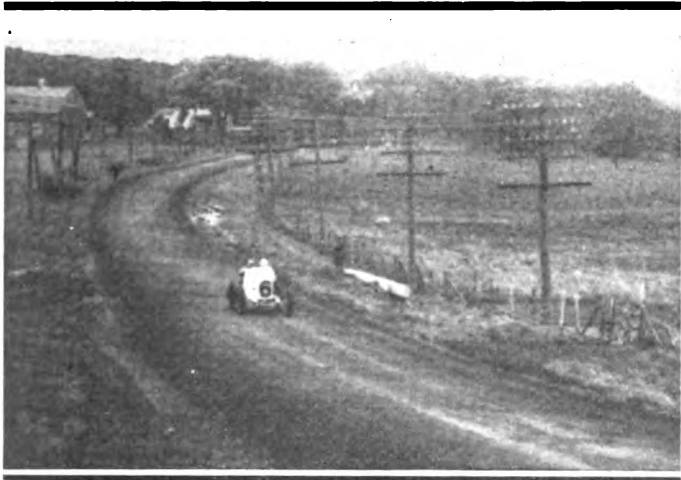
that races are lost by them. The two Stutz cars on both days traveled 1,207.32 miles and made only one tire change. Take the four cars, Anderson (Stutz), Cooper (Stutz), O'Donnell (Duesenberg) and De Palma (Mercedes), and only three tires were changed by all four in the two days of racing totalling 2,287 miles, or one change for every 736 miles, a remarkable record as compared with a few years ago. Of these four cars all but O'Donnell, who had fabric tires, used cords. All told, only 14 tires were changed on both days of racing with 9 starters one day and 12 the next. Not a single front tire was changed.

For 602 miles of racing crowded into two days there were very few mechanical troubles, yet Cooper's Stutz was the only car to go through both days without having to raise the hood or give a single thought to mechanical details, a phenomenal record and one that would indicate that the sixteen-valve construction has been well handled by the Stutz company; and, further, that the high-speed motor has finally taken its place as a reliable factor in racing in this country.

Anderson made one stop of 2 minutes

Automobile Club Trophy at Elgin, Friday, August 20, on the 8.38 Mile Road Course

1:7 142 M. 2830 Ft.	1:8 150 M. 4860 Ft.	1:9 159 M. 1610 Ft.	20 167 M. 3640 Ft.	21 176 M. 390 Ft.	22 184 M. 2420 Ft.	23 192 M. 4450 Ft.	24 201 M. 1200 Ft.	25 206 M. 3230 Ft.	26 217 M. 5260 Ft.	27 226 M. 2010 Ft.	28 234 M. 4040 Ft.	29 243 M. 790 Ft.	30 251 M. 2820 Ft.	31 259 M. 4850 Ft.	32 268 M. 1600 Ft.	33 276 M. 3630 Ft.	34 285 M. 380 Ft.	35 293 M. 2410 Ft.	36 301 M. 4440 Ft.	Miles per Hour
1:51:20	1:57:57	2:04:32	2:11:04	2:18:25	2:25:02	2:31:43	2:38:19	2:45:03	2:51:49	2:58:42	3:05:35	3:12:27	3:19:22	3:26:10	3:32:58	3:41:02	3:47:47	3:54:42	4:01:32	74.979
6:29	6:37	6:35	6:32	7:25	6:33	6:41	6:36	6:44	6:46	5:53	6:53	6:52	6:55	6:48	6:48	8:04	6:45	6:55	6:50	73.859
1:51:25	1:57:54	2:04:21	2:11:27	2:18:05	2:24:37	2:31:17	2:37:51	2:47:02	2:54:16	3:01:23	3:08:35	3:15:41	3:22:54	3:29:56	3:37:04	3:44:08	3:51:10	3:58:08	4:05:04	73.859
6:36	6:29	6:27	7:06	6:38	6:32	6:40	6:34	9:11	7:14	7:07	7:12	7:06	7:13	7:02	7:08	7:04	7:02	6:58	6:56	72.467
1:57:14	2:04	2:10:45	2:17:33	2:24:25	2:31:18	2:38:15	2:45:02	2:51:54	2:58:52	3:05:48	3:13:43	3:21:30	3:28:29	3:35:34	3:42:19	3:49:16	3:56:03	4:03:02	4:09:55	72.467
6:47	6:46	6:45	6:48	6:52	6:53	6:57	6:47	6:52	6:58	6:56	7:55	7:47	6:59	7:05	6:45	6:57	6:47	6:59	6:53	71.163
1:58:19	2:05:14	2:12:04	2:19:05	2:25:51	2:32:29	2:39:31	2:46:19	2:53:07	3:02:15	3:09:10	3:16:52	3:23:54	3:30:42	3:37:42	3:44:36	3:51:39	3:58:06	4:06:05	4:14:29	71.163
6:50	6:55	6:50	7:01	6:46	6:38	7:02	6:48	6:48	9:08	6:55	7:42	7:02	1:48	7:00	6:54	7:03	6:27	7:59	8:24	70.836
2:58:43	2:05:48	2:12:25	2:19:32	2:26:28	2:33:24	2:40:20	2:47:17	2:54:28	3:04	3:11:14	3:18:32	3:25:39	3:32:40	3:39:42	3:46:47	3:53:56	4:01:07	4:08:12	4:15:40	70.836
6:36	7:05	6:37	7:07	6:56	6:56	6:56	6:57	7:11	9:32	7:14	7:18	7:07	7:01	7:02	7:05	7:09	7:11	7:05	7:28	
2:22:29	2:36:55	2:45:41	2:54:01	3:02:33	3:10:51	3:19:49	3:30:07	3:42:15	Out, broken	connecting-rod	25th lap									
9:16	14:26	8:46	8:20	8:32	8:18	8:58	10:18	12:08												
3:09:59	3:16:40	3:23:30	3:30:05	3:37:26	Out 21st lap															
6:39	6:41	6:50	6:35	7:21																
2:34:22	2:42:17	2:50:17	2:57:38	4:36:22	4:54:18	Flagged														
8:08	7:55	8:00	7:21	1:48:44	7:56															



Anderson alone and going great guns on the famous hairpin turn at Elgin

the first day at the pits with what apparently was valve spring troubles. De Palma had his Mercedes out for the first time since it wrecked the crankcase at Indianapolis in May. Since then it has had a new crankcase, new pistons, new connecting rods and new wristpins. The broken rocker arm was due to a too thin section in one place. The second day he had difficulty with his car at high speeds due to the shock absorbers being out of adjustment, the car not riding the road as it should. O'Donnell's Duesenberg made but one stop for a loose accelerator spring. Chandler's Duesenberg stopped due to a back fire in the carbureter, and Henderson's Duesenberg had more serious troubles, first breaking a valve rocker on Friday and a timing gearcase on Saturday.

Barney Oldfield's Delage, with its valves opened and closed by cams, in short, positively-opened and positively-closed, is not yet turned up properly, but ran both days without a stop for mechanical troubles until the last lap on the second day. This is the only motor in this country using mechanically closing valves, a construction which insures a definite valve opening at all speeds. It was first used a year ago in the French grand prize race.

Troubles Mostly Minor Ones

All of these troubles are minor ones, not concerned with the major problems of design involved in the leading questions of high-speed racing motors such as sixteen-valve motors, high-speed characteristics, lubrication, ignition and carburetion. A road race does not test the motor as severely as a speedway race, in that there are two right-angled turns on the Elgin course, which mean momentary rest. On the other hand, these turns are good tests for the brakes, and the constant curving of the course is a severe test for springs, running gear parts and steering gear and connections, frame, etc.

Race management throughout was the best that could be desired. Soldiers guarded the entire 8.38 miles and spec-

tators were kept back of the road fences and not allowed to cross the course at any point. Around the entire course was a series of telephone stations connected with the scoreboard at the grandstand, this board showing by moving figures the course of each car around the route on every lap.

Race Was Beautifully Conducted

The grandstand could see when leaders changed places on any part of the course. The Chicago Automobile Club, which conducts the race for the Elgin Road Race Association, managed the entire affair in a highly creditable manner. The news of the race was announced by a series of megaphones not only to the grandstands, but all around the course, the information being furnished by telephone from the grand-

stand. Baled straw was used to protect the cars at the two right-angled turns in case they should skid.

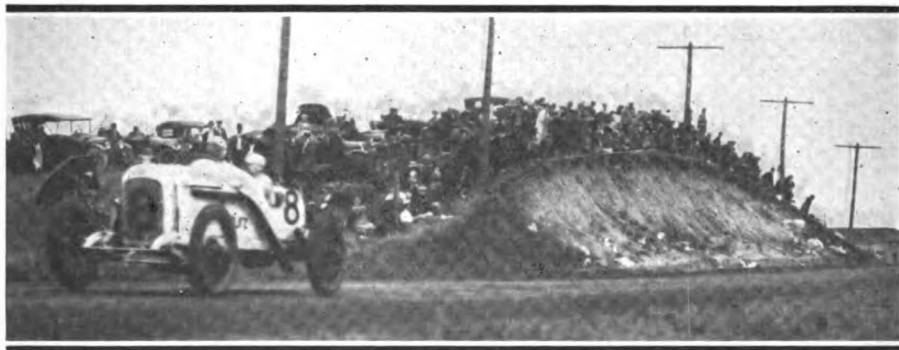
Unfortunately, owing to the weather the attendance was much smaller than on former years, scarcely more than 25,000 witnessing Saturday's race. It rained all Friday night and was raining in Chicago, 38 miles away, nearly all day Saturday, thus preventing thousands from attending. The central west has had a wet season for the last three months. Because of this it is thought that the Elgin Road Race Association, which manages the race, will be practically \$15,000 behind on both days. Cash prizes aggregating \$8,000 were given. The winner each day received \$2,000; second man, \$650, and third, \$350. Each car completing 100 miles received \$100 and those completing 200 miles \$200.

Wonderful Resistance of Cord Tires Feature of Races

Anderson Drove Both Races on Same Set of Tires—Cooper Made But One Change in Two Days—Some of the Troubles That Brought Defeat

CORD TIRES invaded a new field when they had their first tryout in actual road racing. Cooper, De Palma and Henning carried Silvertown cords

and Robillard in the Lozier had a cord tire of Marathon make. Anderson, who finished first in the 450-inch event on the second day and second in the 300-inch



Cooper in his space-defying Stutz nearing the finish line in the race for the Chicago Athletic Club trophy

Specifications and Equipment of

Car	Driver	CYLINDERS		
		Cast	Bore and Stroke	Piston Displacement
Mercer	Patrick	Pairs	4.375x5	300.70
Cornelian	Justin	Block	2 7/8x4	106.50
DuChesneau	W. W. Brown	Single	3.26x5 1/2	184.00
Mercedes	De Palma	Single	3.661x6.47	272.1
Duesenberg	P. Henderson	Block	3.984x6	299.0
Stutz	Anderson	Block	3.812x6.5	296.8
Duesenberg	O'Donnell	Block	4.375x6	360.8
			3.984x6	299.0
Stutz	Cooper	Block	3.812x6	296.8
Stutz		Block	3.812x6	296.8
Ogren	Alley	Block	3.984x6	299.0
Delage	Oldfield	Block	3.703x6.3	271.86
Duesenberg		Block	4.375x6.0	360.8
Lozier	Robillard	Block	3.259x6.625	220.8
Stutz	Burt	Pairs	5.1x5.5	450.7
Mercer	Henning	Block	3.75x6.75	298.2

*Saturday's race.

Cars in the 2-Day Road Races at Elgin, Ill., on Friday and Saturday, August 20 and 21

VALVES					†Lubri- cation	Oil	Grease	Magneto	SPARK PLUGS		Carbu- rater	MAIN BEAR'GS		PISTONS		W. B.	Wheels	Tires	Shock Absorb- ers
No.	Ar'ge- ment	How Operated	Diam- eter	Lift					No.	Make		No.	Kind	Mat- erial	No. Rings				
8	T. hd.		2 3/4	9/16	Splash...		Havoline	Bosch. . . .	..	Split..	Rayfield...	3	Plain	Iron. . . .	2	106	Houk..	Firestone..	Hartf.
8	In hd. . .	Push rods. . .	1 3/4	...	Splash. . .		Texaco. .	Dixon. . .	..	Bosh..	Master . .	2	Plain	Magnal. .	2	100	Own . .	Goodyear. .	...
16	In hd. . .	Ovhd camshft.			Force. . .		Mobile. .	Bosch. . .	..	8 Rexm.	Rayfield..	5	Plain	Magnal. .	2	...	R. W. .	Qualityre. .	Hartf.
16	In hd. . .	Ovhd camshft.	1 3/4	.3937	Force. . .		Monogram	2 Bosch. .	16	Eisem.	Packard. .	5	Plain	Lynite. . .	4	112	R. W. .	Silvertown. .	Merced.
8	Side hd.	Vert. rockers.	2 3/4	7/16	F. & S. . .		Oilzum. .	Dixon. . .	..	Rajah .	Schebler. .	2	Plain	Magnal. .	3 in 1	106	R. W. .	Riverside. .	Hartf.
16	In hd. . .	Ovhd camshft.			F. & S. . .		Oilzum. .	Dixon. . .	..	Bosch. .	Strom. . .	3	Ball. .	Al. Alloy. .	2 in 1	102	Houk. .	Silvertown. .	Hartf.
8	Side hd.	Vert. rockers.	2 3/4	7/16	F. & S. . .		Oilzum. .	Dixon. . .	..	Rajah .	Master* . .	2	Plain	Magnal. .	3 in 1	106	R. W. .	Riverside. .	Hartf.
16	In hd. . .	Single ovhd. .			F. & S. . .		Oilzum. .	Dixon. . .	..	Bosch. .	Schebler .	3	Ball. .	Al. Alloy. .	2 in 1	102	Houk. .	Silvertown. .	Hartf.
16	In hd. . .	Single ovhd. .			F. & S. . .		Oilzum. .	Dixon. . .	..	Bosch. .	Strom. . .	3	Ball. .	Al. Alloy. .	2 in 1	102	Houk. .	Silvertown. .	Hartf.
8	Side hd.	Vert. rockers.	2 3/4	7/16	F. & S. . .		Oilzum. .	Dixon. . .	8	Bosch. .	Rayfield. .	2	Plain	Magnal. .	3 in 1	102	Houk. .	Nassau. . .	Hartf.
16	In hd. . .	2 ovhd camshs.	1 31/32	.4724	Force. . .		Oilzum. .	Dixon. . .	..	Rajah .	Rayfield. .	3	Plain	Magnal. .	3 in 1	104	R. W. .	Firestone. .	Hartf.
8	Side hd.	Vert. rockers.	2 3/4	7/16	F. & S. . .		Oilzum. .	Dixon. . .	..	Rajah .	4 Claudel.	5	Ball. .	Steel. . . .	2	104	R. W. .	Firestone. .	Hartf.
8	Side. . .	Push rods. . .			Splash. . .		Castor. .		4	Scheb. L. .	Rayfield. .	2	Plain	Magnal. .	3 in 1	106	R. W. .	Riverside. .	Hartf.
8	Side hd.	Push rods. . .	3	3/4	Force. . .		Veedol. .	Dixon. . .	8	Bosch. .	Strom. H. .	3	Plain	Iron. . . .	2	101	Wood. .	Mara. Cord	Hartf.
8	Side. . .	Push rods. . .	2 3/4	7/16	Force. . .		Castor. .	Dixon. . .	8	.....	Rayf. AA. .	3	Plain	Steel. . . .	2	108	R. W. .	Silvertown. .	Hartf.

† F. & S.—Force and splash.

race on the first, rode on the same tires throughout both races though he had different cars. They looked as good at the end of the 603 miles of the two-day meet as they did at the beginning.

Cooper went through the two days with one change, which was caused by a horseshoe nail picked up Friday. De Palma likewise had a puncture which necessitated a tire change, but all of his casings looked good for double the distance; in fact, there is only one mark showing on De Palma's tires and this came from his vigorous braking when he overran the turn.

High Speed Hard on Tires

Friday's race saw only three tire changes, the two of De Palma and Cooper, already mentioned, one of Oldfield's, who changed at the end of the first lap. The Saturday race was more prolific in tire trouble than was the Friday race. This was to be expected inasmuch as many of the tires were used on the second day that had gone through the first day's 301 miles. Also, the average speed was over 2 miles an hour faster on Saturday, a difference that would make quite an appreciable lessening of tire life. Altogether there were 11 tires changed Saturday.

O'Donnell made a change on the back stretch, Oldfield replaced four, Robillard lost one by a blowout, Chandler lost two, and Henderson in the Deussenberg lost three. It is worth of note that not a front tire was changed at the pits during the two days racing.

Small Amount of Pit Work

There was an unusually small amount of pit work during this year's Elgin classic, but in a number of cases the troubles which brought the cars into the pits were of such serious nature that they required rather unusually long stops, so that there was a car undergoing repairs of some sort most of the time.

Cooper came into the pits on only two occasions. The first time when he halted for 21 1/2 seconds to take on gasoline

and tighten the shock absorbers. The second and last stop was when he changed a right rear tire which was punctured by a horseshoe nail. This held him for 33 seconds, so that the Californian's total time lost at the pits was just less than 1 minute.

Anderson Finished on Three

Anderson likewise made but two stops. The first one was at 167 miles, when he took on gasoline, getting away in 20 seconds. After he had run over 200 miles he came into the pit missing on one cylinder. After looking at the ignition and valves Anderson started out without doing any work to remedy the trouble and finished on three cylinders in second place.

Eddie O'Donnell, in the Duesenberg, made only one stop, and this was at the end of 206 miles when he took on fresh supplies of gasoline and water; at the same time he attached the accelerator spring which had become loose.

Oldfield, in his Delage, had the record of making the first stop of the day, when he changed a right rear tire at the end of the first lap. He made a halt for gasoline and oil after running 217 miles.

Sent to Town for New Part

De Palma made three stops and lost a total of 1 hour and 15 minutes before he finally retired with a broken rocker arm. When he first came in it was after he had run about 35 miles. The rocker was giving him trouble, but after spending 5 minutes and 30 seconds at the pit he got away without doing anything other than changing two spark plugs. The next lap, however, which took nearly 13 minutes, ended at the pits with the rocker arm broken and De Palma waited while a mechanic went to his garage in town after another rocker arm. By the time the new one was fitted 1 hour and 9 minutes had elapsed. De Palma, however, started out to finish 100 miles with a view to running in the motor, which had new pistons, and also to get some practice for the next day's

event. He was out of the race to all intents and purposes when his first trouble developed.

Henderson's Duesenberg was a contender until he came in with a stuck valve and broken spring and went out of the race.

Tom Alley also was running well and made only one stop, in which he took on supplies and changed a broken spark plug. Alley managed to put the Ogren into fourth place, but finished on three cylinders, one cylinder missing on account of a broken rocker arm.

Cooper went through the 602 miles of the two events without lifting the hood of his car. His only stop on the second day was in the 22nd lap when he refilled the gasoline tank. He did not spend much time at the pits, getting away 13 seconds after his wheels came to a standstill. His teammate Anderson also hesitated only once, this a pause of 17 seconds while a gasoline can was upended over his tank.

O'Donnell lost a few seconds more, being held 36 seconds while he took on gasoline and oil in the 24th lap. De Palma lost 16 seconds in the 23rd lap while he refilled his gasoline tank.

Oldfield made three stops, changing four tires altogether. The first one was in the 5th lap when he changed the left rear, the second he changed the right rear and took on gasoline and oil and the last time he put on some Pirelli tires, which had studded treads.

Equipment That Helped Win

Both Cooper and Anderson used Bosch magnetos and plugs; O'Donnell used a Bosch magneto and Rajah plugs, and Oldfield used a Mea magneto and Rajah plugs. Cooper and Anderson both had Stromberg carbureters, Oldfield used four Claudels and O'Donnell used a Master on Saturday and a Schebler on Friday. Cooper and Anderson both rode on Houk wire wheels and Oldfield and O'Donnell rode on Rudge-Whitworths. All four drivers used Hartford shock absorbers.

Brooklyn Dealers Drop Business for Play

**Martin's Team of U. S. Nobbys
Beats Bindrim's Chains
by 11 to 4**

**Duck Race and Watermelon
Contest Features of Day's
Sport Program**

The dealers of Brooklyn, N. Y.—tire, accessory and car—quit work on Wednesday, August 18; it is doubtful if many of them rested, though it is certain that all of them got much recreation. For about 187 of the 200-odd who left business cares to take in the fifth annual outing of the Brooklyn Motor Vehicle Dealers Association spent a more than ordinarily strenuous day. From the time the procession of 60 cars reached the fun field, which was at Karatsonyi's, Glenwood Landing, L. I., until they started for home, one "event" followed another in bewildering fashion, though it must be said in passing that the only ones who were bewildered were those who attempted to keep a record of the winners.

The outing served a double purpose: it brought the dealers together for their annual frolic and it also marked the formal opening of the Motor Club of Brooklyn, which is composed mostly of Brooklyn dealers and of which they have reason to be proud. The procession left from in front of the clubrooms at 9:30 in the morning and the prizes won during the day were distributed at the club house that evening after an entertainment, including music and several good wrestling matches.

Of course, there was a ball game. But it was not the cut-and-dried kind.



A glimpse of the finger of water that reaches in from Long Island Sound to form Glenwood Landing where the outing was held
H. C. UNWIN (Chalmers) president, Motor Club of Brooklyn

There was action from the time the first ball was pitched. The mere fact that Julius Bindrim's team, the U. S. Chains, was beaten 11 to 4 by Del Martin's team, the U. S. Nobbys, is only incidental. Here is the line-up:

U. S. Chains—L.F., Julius Bindrim; R.F., B. Winans; C.F., J. Diuguid; S.S., F. L. Sanford; 1B, D. Soden; 2B, B. Meyer; 3B, Smith; C, R. H. Johnston; P, S. Doris.

U. S. Nobbys—L.F., Del Martin; R.F., L. J. Ripperger; C.F., J. J. Paul; S.S., W. M. Coleman; 1B, S. W. Kesler; 2B, F. J. Marlborough; 3B, Henry Acker; C, A. K. Schapp; P, Charles Tate.

But the ball game was not the only event on the program if it was one of the principal ones. In addition there were nine others, of which the duck race was productive of the greatest mirth. For the event an unusually lively duck was let loose about 100 yards from shore and at the word nearly a score of bathing-suited dealers leapt in pursuit. Some of the dealers are good swimmers but the

duck was brought up to it. So when he turned occasionally to glimpse the pursuit someone remarked that the duck was laughing at the swimmers. But the real fun started after the duck commenced to tire and some of the swimmers nearly grasped his tail feathers. He ducked, as a duck should, and when he came up, about 30 feet away, the pursuers had to start all over again. Ben Stephens, after a persistent chase, eventually caught the bird.

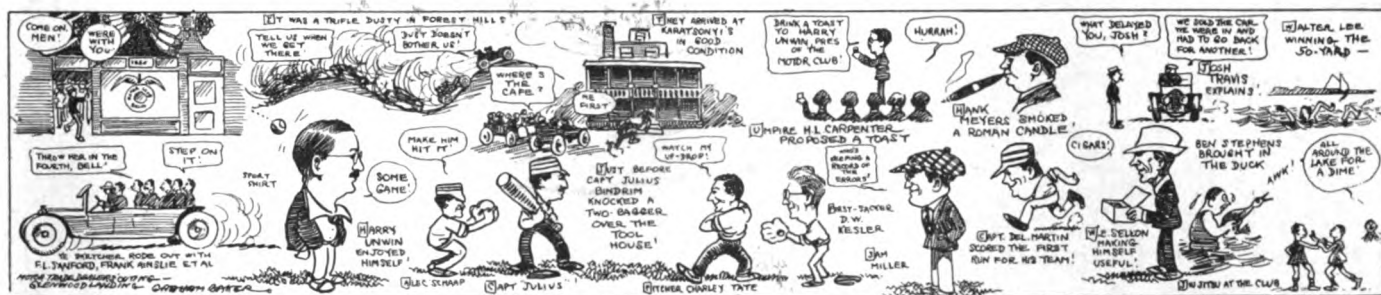
This event and another, the monkey race, were the novelties of the program. In the latter, the contestants were required to run about 100 yards on all fours. The word mix-up does not express the condition of affairs at the 50-yard mark. E. King, of the King Tire Co., won, "Doc" Miller was a close second, and F. I. Turner, Dunham & Black, l'aige dealer, was third.

Most of the other events already are familiar to those who have attended other outings, though a brief summary of them may serve to introduce them to



One of the few moments during the day when all, or nearly all, the dealers who attended the outing were quiet. Chas. Tate, of the Martin-Evans Co., supply dealer, major domo of the outing, was never separated from his megaphone

WITH THE BROOKLYN DEALERS AT THEIR OUTING—BY GRAHAM BELL



—Brooklyn Times.

harassed committeemen to whom it falls to get up a program.

SHOE RACE—All contestants required to place both shoes in a common pile 100 yards from the starting point and at the word run to the pile, put on both shoes, lace them and run to the starting point. Won by D. Soden, Soden Motor Cab Co.; second, W. Jungkind, Jungkind & Vogler (Accessories); third, W. Bowers.

POTATO RACE—Contestants required to place ten potatoes, one at a time in pail, at starting point, pick up pail and run to finish line. First heat won by A. H. Etzell, Chevrolet Motor Co.; second, E. A. Willers; third, T. F. McGirr, Firestone Tire & Rubber Co. Second heat won by D. Soden; second, G. H. May; third, John Banzer, Banzer & Schultman (Accessories).

GYMKANA—Run in cars, each driver to drive to first barrel, remove coat and

light cigar, drive to second barrel, get out and drink bottle of liquid, hard or soft, drive to third barrel, put on coat and sign name, and drive to finish. Won by B. Wolff; second, T. F. McGirr; third, F. R. Hance.

FAT MAN'S RACE—About 75 yards; first heat, 200 pounds or under. Won by J. J. McGowan, Michelin Tire Co.; second, Bud Meyer; third, A. M. Dickel, Ford Motor Co. Second heat, over 200 pounds. Won by W. Blair; second, G. H. Kennedy; third, R. H. Johnston, White Co.

SWIMMING RACE—About 100 yards. Won by Walter R. Lee, Packard Motor Car Co.; second, J. Wenck; third, W. Tigar, Packard Motor Car Co.

FETCHING CONTEST—Under water swimming. Won by W. Tigar; second, Graham Baker, Brooklyn Times; third, W. Ainslie.

WATERMELON CONTEST—Con-

testants were required to carry a watermelon, thrown overboard, about 25 yards from the shore, to the starting point. Won by Ed. Fahy.

ROWING RACE—About 100 yards. Won by E. C. Bell; second, Wm. J. Gilbin; third, H. F. Earl.

For the contestant who won the greatest number of points—5 for a first, 3 for a second and 2 for a third—the Brooklyn Eagle has put up a silver cup. This went to D. Soden, with 14 points.

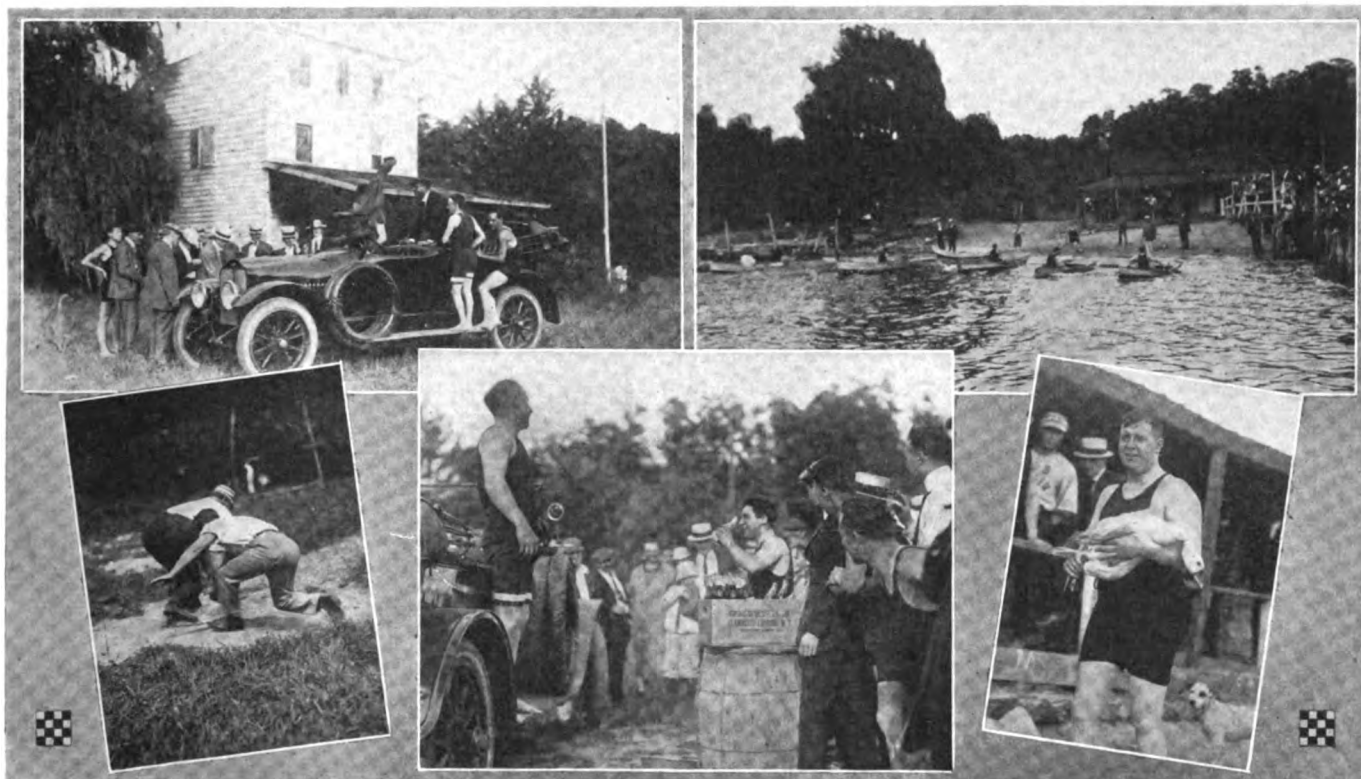
All of the prizes for the day were donated by the dealers along the row and ranged from Klaxon horns, bumpers, electric spotlights and sets of spark plugs to fitted traveling cases, cups, gloves, goggles, tires and tire cases.

All told, more than 200 dealers turned out, a partial list of those present including the following:

C. A. Abbott, Henry Acker, W. W. Adams, W. Ainslie, C. Graham Baker, Charles F. Batt, George Baur, John Banzer, C. A. Beach, C.

R. H. Johnston (White) in an ineffectual attempt at the gymkana trophy

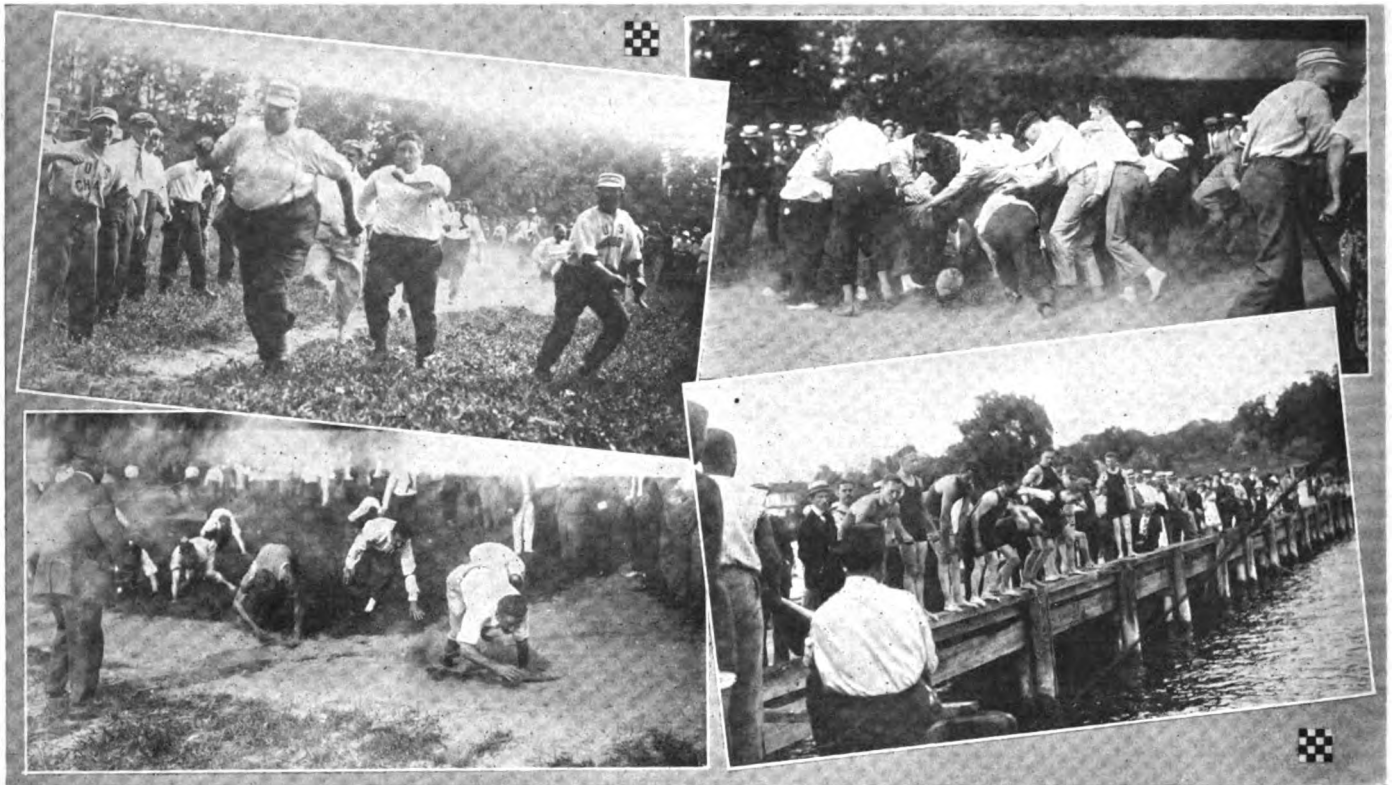
Start of the rowing race that was won by E. C. Bell (Studebaker)



Bud Meyer in action at first base

The third barrel in the gymkana; N. M. Powell, Powell garage, in action

Bed Stephens, duck race hero, and the duck



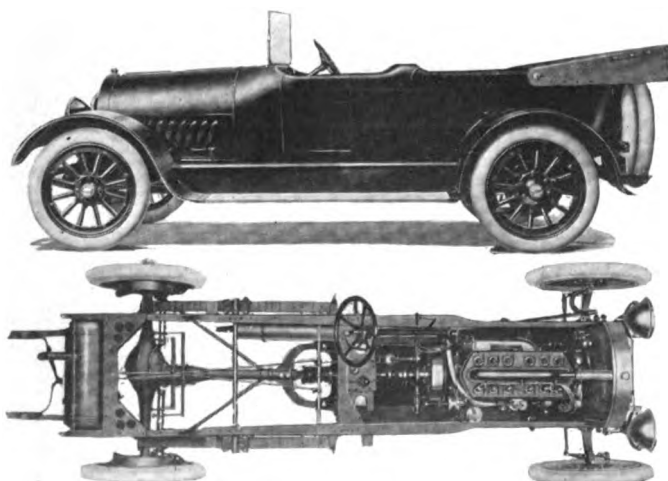
Bud Meyer leading J. J. McGowan (Michelin) winner of the fat men's race
The monkey race was a genuine diversion; E. King, King Tire Co., won

As usual, the shoe race was a mad scramble; D. Soden (not visible) won
Line-up for the swimming race won by Walter Lee (Packard) at left end

Bedell, E. C. Bell, R. J. Bentel, Julius Bindrim, H. L. Bixby, Allan Black, W. Blair, E. T. Bloxham, A. Boerimman, W. H. Bowers, W. Boyd, Bob Brazenor, Harry W. Brigham, M. W. Browne, Fred Burns, Oscar Bleier, J. Cambone, John Campbell, Edwin F. Carey, H. L. Carpenter, M. R. Carr, A. B. Christie, Abe Cohen, Z. F. Cohen, W. M. Coleman, Thomas E. Cornell, F. H. Cronebach, L. De Casanova, Frank L. Dela, E. A. De Winter, A. M. Dickel, J. S. Diuguid, Samuel Doris, M. B. Dorman, A. G. Downs, O. J. Duhamel, Alvin N. Dunham, Frank Dunham, H. F. Earl, A. C. Edwards, William E. Ensner, A. H. Etzel, T. W. Fahy, E. H. Fahy, A. J. Farrell, M. P. Farrell, D. J. Fitzsimmons, Walter Flessel, Nick Fleury, Hugh F. Foster, Fred Gabriel, Emil Geidler, William J. Giblin,

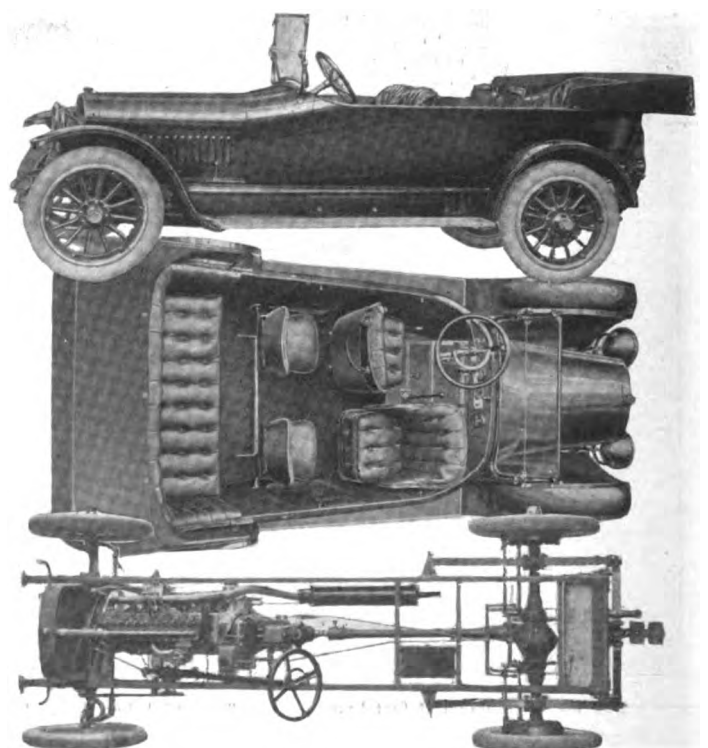
M. Goddess, G. A. Gonso, A. H. Graham, W. L. Gray, J. H. Groth, John Hackle, W. S. Hager, E. Haliman, C. A. Hanson, F. R. Hance, R. S. Hedtler, F. U. Hillers, Lewis Hock, W. J. Houldcroft, C. Huber, David E. Jacobs, C. F. Johnston, James Johnston, R. H. Johnston, W. Jungkind, Thomas V. Kane, I. Kaplan, F. Kengeter, G. H. Kennedy, S. W. Kesler, G. H. Kiley, E. King, I. C. Kirkham, W. H. Kouwenhoven, Herman Kramer, Sr., Herman Kramer, Jr., H. Lasky, W. R. Lee, F. T. Lewis, J. Lewis, D. F. Loden, L. A. Loew, J. J. McArdie, P. J. McAuley, T. F. McGirr, J. J. McGowan, A. C. McIntosh, V. L. McKerrin, James McLaughlin, S. P. McMinn, J. R. McShane, William Mantha, H. P. March, P. M. Marko, T. J. Marlborough, Del Martin, George H. May,

S. W. Menafee, Charles Messerschmidt, H. F. Nicholson, Sam Miller, Fred Miller, M. Montigny, Otto Muller, Jacob Muller, L. Murphy, P. H. Nickerson, N. Orlando, J. M. Palmer, Alex E. Pastrie, James J. Paul, Edwin V. Phillips, W. P. Phillips, Thomas Pitt, Charles J. Potbury, C. A. Prescott, Harry Pyle, M. C. Reeves, Ed. Riley, G. Ripperger, W. S. Rising, F. L. Sanford, A. K. Schapp, Jr., J. A. Scully, W. E. Severn, Harry Smith, Louis Stark, Ben Stevens, J. G. Stockham, J. G. Stortzer, E. J. Sullivan, W. A. Sellon, W. Tigar, Hugo Tollner, Jr., Frank I. Turner, Harry Unwin, M. P. Warnick, G. E. Waters, H. J. Wechtel, E. P. Weiss, J. Wenck, Joseph Wilkey, E. A. Willers, H. Williams, B. Winans, B. Wolff, C. G. Wright, G. C. Zeiner.



Above is shown the newest type McFarlan which has a cowl at the back of the front seats. The chassis incorporates a new type of cantilever rear springing much like the Lanchester type

Though the difference between the McFarlan and the Davis which is shown at the right is striking, the Davis illustrations inadvertently were captioned McFarlan in last week's issue. The Davis is a six and has the distinctive divided and swiveling front seats; the chassis is simplicity itself. This model Davis lists at \$1,495. The McFarlan is \$2,680 with 4 x 6 motor and \$2,990 with 4½ x 6 motor



Hagadorn's Tale of Woe and Redman Service

He Bought a Redman Car—He'll Never Buy Another—An Unadorned Story of Plain, Fool Business Management

By Ray W. Sherman

REILLY and Tommy Trumbull, en route from Sayanna and the Sennett factory to Callawassa, their home town, skimmed along through Midvale in the new demonstrator. It was a nice day, the roads were fine, the car ran smoothly, and the pair enjoyed the country atmosphere.

They slowed down for a school house and were just getting beyond the swarm of homeward-bound kindergartners when they approached old Jeff Goldman's jewelry store with its big, pleasant-faced and never-failing clock. Reilly and Tommy, as they always did in front of Goldman's, slowed down and pulled out their watches. Reilly let the Sennett amble unguided for a short distance while he compared his chronometer with the big clock.

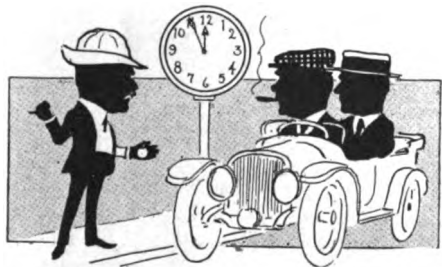
He Sees a Prospect

Just then Reilly, watch still in his hands, pushed out the clutch and set the service brake. "Hello!" he shouted to a man who stood on the sidewalk in front of the store, also setting his watch.

The man on the sidewalk finished his adjustment before he turned. Reilly, too, finished fixing his minute hand.

"Hello, Reilly! How are you, Tommy?" was his greeting as he walked toward their car.

It was a Calawassa man, Hagadorn by name, whom Reilly and Tommy had tried to land for a Sennett car early in the spring but who had cast his fortunes with the Redman and had passed his check to Henry Bennett, a rival dealer.



"Come all the way down here to set your watch?" asked Reilly.

"I did not!" snapped Hagadorn. "But there doesn't seem to be much else to do here!" he added testily.

"Get in and I'll take you home."

Hagadorn declined the invitation. "I can't," he said.

"That's tough," laughed Reilly. "But I've seen worse places to stay than Midvale. It's a pretty nice town."

"Nice!" exclaimed Hagadorn. "Rotten! I'd hate to die here—and that's all there is to do here—die!"

"Drive down?"

"Yes, and I guess I'll never get back!"

Here Hagadorn opened up and started to unburden himself. "It's that damned Redman car, Mr. Reilly! I wish I had invested in a Sennett. I never was so sick of a thing in my life as I am of that car and that man Bennett."

Hagadorn Has a Grouch

When a car owner started on a tirade against a rival car and a rival dealer Reilly hardly knew what to say, so he said nothing and reached down to make believe tinker with his shoestring. When Hagadorn began to talk again Reilly straightened up.

"I'm not the kind of owner who expects a dealer is going to give him a million dollars worth of parts as service, but I do expect common decency, and that man Bennett doesn't know any more about running a business than I do about making eye-glasses. He ought to be ridden out of town on a rail."

"I started from Callawassa yesterday afternoon for a drive. I got down here and one of the chain drives in the motor broke. I got to a telephone right away quick, called up Bennett and told him to send me down a chain at once. To confirm the message I sent him a telegram. I told him to put the chain on the first interurban car and get it here quick."

Bennett Falls Down

"I stuck around during dinner and waited for that chain. I thought I had better wait for it and get home in the car. I could have left the car here and gone home, but the job itself was so small—if I could only get the chain—that I thought I would save time and money if I waited. It got so darned late that I went to the hotel and figured I would put the chain in this morning, but the darned thing never showed up last night at all."

"This morning I called Bennett up again, and you can believe me I told him a few things. I asked him why he hadn't sent the chain last night. He said he just missed the last interurban express with it and had no way of send-

ing it. I asked the fool if he couldn't have given the motorman a quarter to throw it off, or sent one of his men with it, or brought it himself for that matter. He hemmed and hawed and didn't give me any satisfaction so I hung up. He said the chain was shipped by interurban express this morning."

"I've been waiting ever since. It's nearly noon now and the chain hasn't showed up yet. There's another express due in a few minutes and if that chain doesn't come I'm going back to Callawassa by trolley and kick the devil out of the man Bennett; see if I don't! I—"

"Isn't that it now?" Reilly pointed to a big green electric car that was approaching a quarter of a mile away down the main street.

Finally He Got It, But—

"Get in," he invited, "and I'll run you down to the express office."

Several vituperative minutes elapsed before Hagadorn got the parcel bearing the return stamp of Henry Bennett, Callawassa.

"Can't I help you put it in?" asked Reilly. "Tommy and I are pretty handy at those things."

"No, I'll let one of the repairmen do it. The car's in the garage back of the hotel."

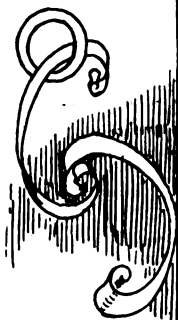
The repairman undid the parcel and dug into the motor, which was all ready to receive the chain. After a few minutes he came up, wiped the sweat from his greasy brow with the back of his



hand and said: "It doesn't seem to fit, Mr. Hagadorn."

The car owner jumped a foot into the air and yelled: "What! Doesn't fit! The hell you say!" Hagadorn grabbed the chain and fitted it to the gears himself. "Here, Reilly, you try it!" Reilly made a try at it and replied:

Kind Words That Cost Nothing and Build up Mighty Asset of Good-will



IT IS A PLEASURE TO PAY THIS BILL. *Why shouldn't it be? You gave me the full worth of my money and added to it courtesy, accommodation and the benefit of your knowledge, your experience and your facilities—all of which have been to my advantage. Why should I feel other than grateful—why should any customer ever feel that he is bestowing a favor when he is paying you for a quality and service greater than the customers of any previous generation ever dreamed of?*

This card is not enclosed with all my remittances. Occasionally there are bills I have to question. But to you I am very glad to send it—and wholly sincere in what I have said.

McCortell

1278 BROADWAY



I BELIEVE this bill is right, and if it isn't, we will be glad to make it so. Surely by this time you know that our policy is to be fair. "Service" is a complicated thing, and the line between "free" and "paid" service is often hard to draw. When a customer asks for explanations we are glad to give them and to discuss the matter with him. If he smiles and is good natured about it, we can get to the point very quickly.

TOM BOTTERILL

Upper—This slip is mailed by Tom Botterill, Denver Pierce-Arrow dealer, with checks in payment of bills—but not all bills. As the slip states, some bills don't deserve such comment

Lower—When a bill is being sent out this slip is enclosed. It helps clarify the atmosphere surrounding service charges and removes obstacles from the path of payment

The slips are just one more of those little ways in which courtesy and good-will can be made one of the greatest business assets

"Wrong chain, sure enough," he agreed."

Hagadorn dashed into the office and in a few minutes it was apparent he was talking to Bennett. The things he said are not recorded here out of respect to the postmaster.

"Damned fool!" Hagadorn wiped his brow with his handkerchief. "Nut! Idiot! Says that's the only chain he had in stock. I told him plainly what chain I wanted. Fool!"

No comment was necessary. They all waited for Hagadorn to make the next move—and he made it. He called Bennett up again.

"I told the boob I'd take the thing



up with the factory!" he announced, as he again came from the telephone booth, mopping his dripping face. "He said—" and here Hagadorn gave an imitation of Henry's slow drawl—"he considered he had handled the matter in full accord with the dictates of business and that he could do no more. He said he sent me the only chain he had." Hagadorn was walking up and down like a caged grizzly as Reilly stepped outside, followed by Tommy.

"Poor Henry," said Reilly, with a shake of his head. "He never will get over those old habits. He could have told Hagadorn last night he didn't have the right chain. Instead of that he tries to make out he is giving the man service and tries to cover up his fall-down by saying he misunderstood the order. Furthermore, he ought to have one of those chains in stock. I don't know what the Redman people are thinking of not to require him to carry those chains in stock.

"And he should have had sense enough to know that a car owner who has broken down out in this little village

wants a part and wants quick. The idea of waiting until this morning before sending it. Tommy, I would have brought that chain down in by own hand afoot if that man had been a Sennett owner. I would have charged him for it, too, and he would have been tickled to death to pay the bill."

"He should have bought a Sennett in the first place," said Tommy.

"What'll you give me for that piece of cheese?" asked Hagadorn, as he fumed out the garage door.

"We aren't trading much these days, Mr. Hagadorn," replied Reilly.

"Well, how much do you want to take it?" laughed the car owner, who began to sense the humor of his disaster.

"Get in. We'll talk it over on the way home."

Hagadorn got in.



**AUTOMOBILE TRADES
ASSOCIATION
OF COLORADO**

Left—Bert Cole, director of Tire Division. Center—Charles T. Bruckman, president. Right—W. G. Dickey, director of Oil Division

Facts About Cars

Crankshaft Vibration Damper

The Lanchester vibration damper, the American rights for which were recently purchased by the Packard company, is to reduce the vibration set up by the six-throw crankshaft due to its twisting back and forth under explosion and inertia strains. The front crank is twisted the most as it is farthest from the flywheel. When an explosion in cylinder No. 1 occurs, the crankshaft springs slightly under the load, and then an instant later it jerks the piston back in the other direction, and so on until the force is spent.

The object of the Lanchester damper is to resist the return spring of the crank, and thus eliminate the vibration. It consists, Fig. 1, of a small flywheel attached to the front end of the crankshaft, drive being through a friction clutch which is so adjusted that when the crankshaft twists the clutch slips slightly. Thus when the crank twists forward the inertia of the damper rim causes it to try to maintain a steady speed and the clutch slips a little and then the crank tries to twist back at the end of the power stroke the flywheel rim again resists the tendency to oscillate. The sum total of the effect is that the energy of the twisting crank is absorbed by friction between the clutch surfaces.

Owen Magnetic Transmission

In the Owen magnetic transmission car, a new model of which was recently announced, there is no positive connection between motor and rear wheels. This transmission is to the chassis what the pneumatic tire is to the wheel; there is a perpetually soft cushion between the source of power and the rear wheels.

The principle of operation is really that of an ever-slipping clutch except that it is a magnetic clutch and the drive is by magnetism instead of by friction. Under ordinary conditions, corresponding to high gear, the slippage is very small, and when climbing steep hills it becomes greater, increasing with the steepness.

The transmission consists of a motor and generator placed amidships, Fig. 2. The two armatures are directly connected, and a continuation of the motor shaft forms the drive shaft to the rear axle. The frame of the generator takes the place of the flywheel and the frame of the motor is bolted fast to the chassis.

On what corresponds to direct drive, the armature winding is short-circuited and current flows only through it. This

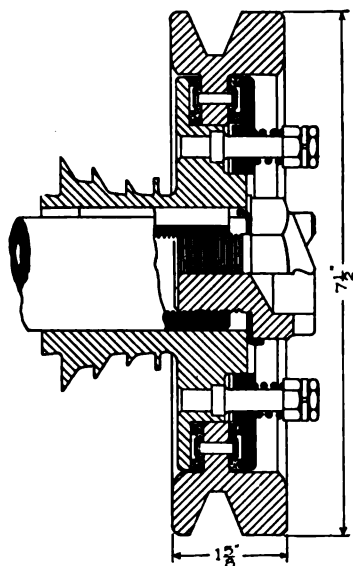


Fig. 1—Lanchester vibration damper as applied to Packard twin six

current produces a powerful attraction on the field frame of the generator (flywheel), and as the latter rotates the former is dragged around with it. Under these conditions the electric motor is inoperative.

On the other forward speeds, and there are seven, part of the current produced by the generator is sent through the motor so that the latter adds its driving effort to that of the magnetic drag between generator field and armature. The amount of slippage between the two parts of the generator and the quantity of current sent to the motor are directly proportional, so that on what corresponds to low gear the current sent to the motor is very great and the slippage is a maximum.

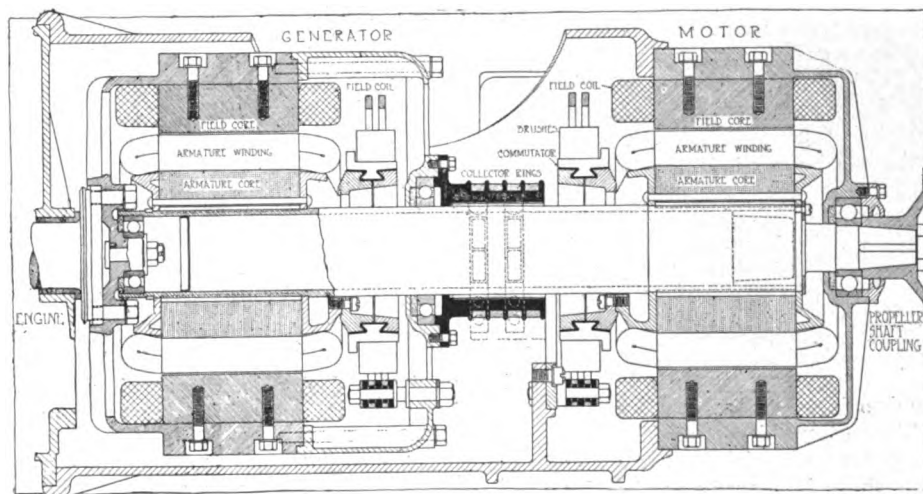


Fig. 2—Magnetic transmission of Owen car which takes the place of clutch, gearset, starting motor and lighting generator

This transmission also takes the place of starting motor and lighting generator.

Why Heavy Pistons Are Bad

All reciprocating engines suffer from the disadvantage that the pistons have each to be stopped and restarted twice in every crankshaft revolution. Their direction of travel is changed at each dead center, so the inertia of the piston mass has to be overcome four times each revolution, since effort is required to start it moving either up or down and then to stop its movement at the other end of the stroke.

Thus reducing the weight of the pistons of a four-cylinder motor: 1. Reduces the jerk caused by reversing the motion at the dead point and so lessens vibration. 2. Decreases the stress on the crank bearings and connecting rods. 3. By reason of 1 and 2 permits increased motor speed and so increased power.

The reduction of stress on the connecting rod and its bearings by reducing the piston weight can best be demonstrated by an example. Assume that a piston weighs 2 pounds and that it has a stroke of 6 inches. At 1,000 r. p. m. the maximum velocity reached will be about 33 feet per second, and stored 137 pounds represents the stress on the connecting rod due to inertia. At 2,000 r. p. m. the figure is 548 pounds and at 3,000 r. p. m. it is 1,233 pounds. If the pistons weighed 3 pounds each the figures would be 210 pounds, 840 pounds and 1,890 pounds, respectively.

Materials for Making Ball Bearings

The essentials of a ball bearing material are hard surfaces and tough core, and beyond this the hardness of every spot on every part must be even. Extra hard places mean inaccuracy in the grinding operations and increased rapidity of wear in use. Three forms of material are used, bar for making small bearing races, tube for making larger races, and drawn wire for making the balls.

WIDE-AWAKE MERCHANDISING

SHREWD BUYING INCREASES PROFIT

Garageman Buys in Bulk and Supplies Exact Needs

Henry J. Adams, Fostoria, O., garageman, does not always follow the beaten path in marketing accessories. A careful watch on the out-of-the-ordinary needs of his customers, and shrewdness in purchasing stock has yielded him enormous profits on certain lines.

For example, instead of buying standard sizes of belting he purchases it in large pieces and cuts it in lengths and widths to suit the customer; not only does he make a greater profit thereby but he is able to furnish a belt for any make of car at a moment's notice. Patent fasteners are used in attaching the belts.

The sale of sheet fiber pays well, he has found, and he carries it in four thicknesses; up to $\frac{3}{8}$ -inch it is used for gaskets, packing and insulating, and the other garages as well as private owners come to him for it.

Job Lots Bring Profits

Copper tubing up to $\frac{3}{8}$ -inch is an article not generally carried and yet one which is sold in large quantities.

Job lots of plate glass are purchased from time to time at low figures, and whenever a new windshield glass is wanted one is cut to fit. The profit in this is very large.

Round gasoline tanks are also bought in job lots and a ready market is found for them among those who are converting their touring cars into roadsters.

Assorted sizes of leaf springs are always carried in stock, and it is found that usually a spring can be found to replace a broken one, thus saving the customer considerable delay. The good leaves of the broken spring are saved and a new one obtained to take the place of the broken one, so that a complete spring, practically as good as new, is produced at small cost.

Tops from old cars are saved and sold to owners from time to time; it is found that there is a ready market for these tops, strange as it may seem. The tops are suspended from the ceiling so that

they do not occupy any valuable space.

Keeping alert to the customers' needs and how they may be most profitably supplied is how Adams has made a big success of his business. Any garageman can follow this man's example by asking himself, "Is this the most profitable way of purchasing this line of supplies?" each time he buys any stock.

MAKE GARAGE KNOWN THROUGH CATALOG

In the work of making the Owl Electric Garage one of the best known in Minneapolis, the proprietors have issued a booklet which is a complete catalog of 24 pages. A copy was sent to every electric owner in the city and this was followed by a personal letter, soliciting business. One thousand booklets were printed at a cost of about \$250, which, of course, does not include the mailing cost.

Good Illustrations a Feature

The catalog has a foreword on the garage, followed by a description of the service and the battery departments and repairshop. Illustrations are well used. The picture of the washing department aptly shows a washer cleaning the top of a coupe, an unexplored territory in some garages. The paper stock is of a brown tint.

The frontispiece consists of pictures of President J. N. Johnson, Vice-president W. A. Simonson, Treasurer A. M. Wintheiser, Secretary-Manager R. E. McComas, Director and Consulting Engineer William Wintheiser, Jr. The garage, which has 22,000 feet of floor, is at Hennepin avenue, Dupont avenue and 24th street. The garage can store 90 cars and desires to care for this number; it has been in operation two years; rates are \$35 a month.

NEW FORDS FOR OLD CARS

"A new Ford for your old car," is one of the special means Loveland & Co., used car dealer in Cleveland, uses to boom its business. Many customers are attracted by the idea of obtaining a new car for an old one. If the old car does not equal a new Ford in value money is paid or received by the customer to make up the difference.

WANTED SMALL SIX BUT GOT A BIG ONE

How a Woman's Influence Led to Profitable Argument

Often it is the wife who decides what car shall be purchased, and the salesman then must find out what feature of the car appeals most to her and dwell on that.

A cub salesman nearly lost a sale recently by not recognizing this fact. He was just about sure a certain prospect was going to buy one of the small sixes, but when he went to close the deal he was told that they (the prospect and his wife) were going to wait until they had seen the Blank Eight which would not be in town for a month.

As this car was much more powerful than the Small Six he felt the sale was lost. However, he returned to the office and laid the matter before the sales manager, who decided that the best thing to do was to make another call. So the next morning they were at the residence with the demonstrator at 8 a. m.

Big Six Closed the Deal

As soon as breakfast was over the prospect and his wife came out to take a ride in the car. Soon the sales manager saw that the husband was favorably impressed with the machine but that the wife was not, so he directed all his attention to her.

He found that the main objection was that the car was too small, and he immediately telephoned for the big six. After giving a demonstration in this he began to picture the prospect and his wife riding in the car. He showed that eighteen governors were riding in cars of this model, that this society leader and that one in New York and Chicago used the big six. Finally he mentioned several people in that city who owned big sixes, and he ended by saying that she would be in that class if she rode in a Big Six.

She was carried away by the idea, forgot all about the Blank Eight, and forthwith had her husband make out a check in full.

Telephone Service

***When the Car Owner Asks
Excessive Service Tell
Him This Story***

By Robert Foster

WHEN I got a notion I could use a telephone at my home I went down to the office of the telephone company and asked them what could be done. They asked me to sign a contract, which I did, calling for the installation of a two-party line. For that I agreed to pay \$2.50 a month for a year.

I asked when they could put it in and the man at the desk looked over some records and said it would be about a week or ten days, as there were quite a few jobs ahead. He was as good as his word.

Then I called up to let my sister-in-law know we at last had a 'phone. When I took down the receiver I heard voices, which at once notified me that the other party was using the line. A little later I tried again and this time the "click-click" and Miss Central told me my sister-in-law's line was busy. This was exasperating but I had no cause for complaint.

I called up my brother that evening. He lives so far out there is a 5-cents-for-5-minutes toll. I guess I must have talked too long; for when the bill came I found I had enjoyed 10 cent's worth of conversation. We moved and had to have the telephone moved.

The company said that until I had been a subscriber for a year and had become an old subscriber I would have to pay \$3 for having the instrument moved. The man explained that otherwise they were losing money on my rental. I felt it was somewhat of an injustice, but I paid it without protest.

Then, the other party on our new line grew so conversational and used the wire so much that we asked for a one-party line. This, they told me, would cost \$3; it was worth it. I dropped the instrument one day and smashed it. This cost me some money, too, but I was to blame.

Sometimes the central girls were not as prompt as I thought they should be, and at this I protested and even reported one of them. I actually succeeded in having the service improved. All in all, things have been quite satisfactory.

As to service, I expected promptness, clear wires and fair charges. I did not expect \$3 service on a \$2.50 wire; I did not expect I could talk six minutes for a nickel when the service for five minutes was 5 cents; I did not expect them to move my instrument all over the city for nothing; I did not expect to butt right in on a busy wire; I did not expect to smash up the apparatus at will

and have the company stand the expense; I did not expect anything except what I paid for—except good prompt service, clear wires and fair charges.

Now—when I buy a car why should I expect the dealer who sold it to me to wash and polish it for nothing, give me parts free, do labor without charge, store it gratis, tow me around and do many other things which must assuredly eat a hole in his profits? I can't answer the question myself—but if I am the average car owner I do expect this excessive service.

HANDLING SALESMEN REQUIRES WELL THOUGHT OUT PLAN

The necessity for having a well-understood plan with regard to the handling of salesmen on the sales floor is well brought out by Manager Fred Miller of the Brooklyn, N. Y., branch of the Packard Motor Car Co. It is Miller's plan to assign each day of the week to one man, who is designated floor salesman for the day. All business that comes from the floor that day belongs to that salesman regardless of who may close the sale. The reason for adopting the plan was that his experience made plain that without such an understanding the salesmen actually became afraid to leave the floor even for a few minutes in the fear that they might perhaps lose a sale.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith and this will be followed by others which have been especially designed for the purpose of assisting the dealer in bringing his merchandise to the attention of possible purchasers. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



By way of introducing its greases to the motorist, the Keystone Lubricating Co., Philadelphia, is supplying dealers with the oak cabinet which is illustrated. The case contains 24 sample cans of grease which are for free distribution. The cover of the case has advertising matter which makes plain some of the uses of the grease and there is a compartment at the side for advertising literature which also is supplied. The case can be supplemented with a moving display showing the action of the grease in a gearcase.

TRUCK ACCESSORIES MIGHT BE PUSHED

Outside Man Could Watch All Trucks and Note Needs

The difference between selling goods and merely taking orders is the difference between a good and a poor accessory business.

Many wide-awake accessory dealers now have outside salesmen who spend all their time calling on truck users, as there is a constant demand for tires, oil, grease, nuts, bolts, etc., not to mention lamps, horns, speedometers and other special equipment which is frequently required.

A very simple method of ascertaining the new truck users as they appear is to make a practice of watching the signs on trucks. It is easy for a salesman to familiarize himself with the present users so that as soon as a new name appears he recognizes the fact and adds the name to his prospect list.

Ten Guards

Page 5

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Electric Light at One-third (No. 177)

Electric light at small cost, one-third to one-quarter, can often be obtained by utilizing part of the power produced by the gas or gasoline engine used for driving the machine tools and air pump. An old electric generator of suitable capacity and voltage is the principal necessity, and it can be purchased at small cost second-hand. No particular skill is required to make the installation.

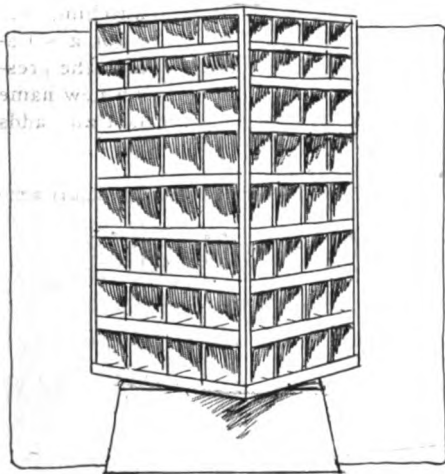
For example, the City Garage, Con-

watt rating is invariably marked on the generator name plate.

The ratio of the pulleys on engine and generator should be inversely proportional to the speeds of the two machines. If the engine runs at 300 and the generator at 1,500 r. p. m., the latter runs five times as fast as the former and therefore it should have a pulley one-fifth the size of the one on the engine. —P. W. Cowle, City Garage, Conneaut, O.

Small Parts in Rotary Case (No. 178)

A rotating cabinet for holding small parts is an excellent time saver in the shop, for it allows a nut or a bolt to be



(No. 178)

Small parts are conveniently housed in a rotary cabinet

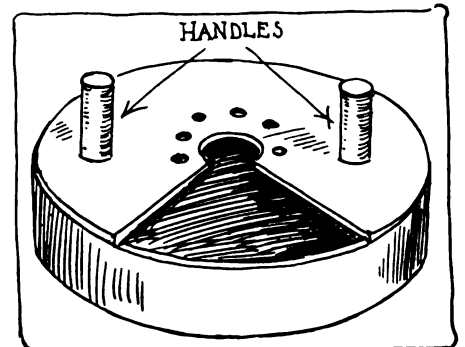
neaut, O., makes its own electric light under the method outlined and saves about \$20 per month thereby. Formerly the cost of current at 8 cents per kilowatt was \$25 per month, while now the same light is furnished by \$5 worth of natural gas at 30 cents per 1,000 cubic feet. Although a hit-and-miss governor engine is used, little trouble is experienced with flickering; a throttle governed engine is preferable, however.

In making such an installation there are really only two things to bear in mind, assuming, of course, that the wiring has already been put in for use with city service—one is the selection of a generator of proper capacity and voltage and the other is the determination of the proper size of pulleys to use to transmit the power from engine to generator.

The voltage of the generator should be approximately the same as that for which the system was laid out, usually 110. The kilowatt capacity of the generator should be at least equal to that required by the sum of the lamp capacities. The ordinary 16-candlepower Mazda lamp takes about 20 watts and a carbon lamp of equal lighting power 50 to 60 watts. Therefore, if there are 60 16-candlepower Mazda lamps, 60 times 20, or 1,200 watts capacity, would be required, or 1.2 kilowatts. The kilo-

Brake Drums for Testing (No. 180)

Lining up and adjusting brakes may be facilitated by having a set of test drums, one for each car model; this is, of course, only feasible where a great number of one make are repaired. An ordinary brake drum with a section cut out of it so that the action of the internal brakes may be observed is all that there is to the test drum except for the handles, which are merely a convenience in handling. The test drum removes the



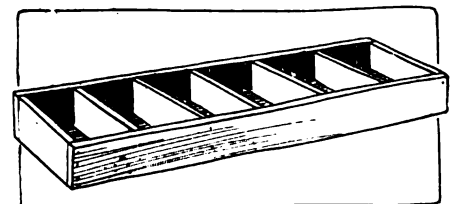
(No. 180)

Test drum equipped with handles

necessity of putting the wheel on each time the action of the brakes is tested. —W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

Cotter Box for Shop (No. 181)

A cotter pin box with compartments for each size of pins is something every shop should have within easy reach of all the mechanics. When a man carries

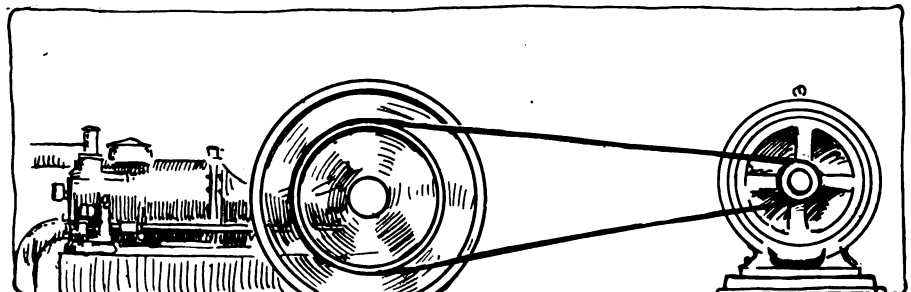


(No. 181)

Cotter pin box for facilitating repair work

Stool for Radiator Work (No. 179)

A stool with a revolving top makes an excellent workbench for soldering radiators. The construction of the average radiator is such that in repairing it is necessary to turn it frequently and a stool such as the one shown fills the bill. —W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.



(No. 177)

An old generator belted to the shop gas engine gives cheap light

them in his pocket he never has the size he wants and he is continually losing them.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

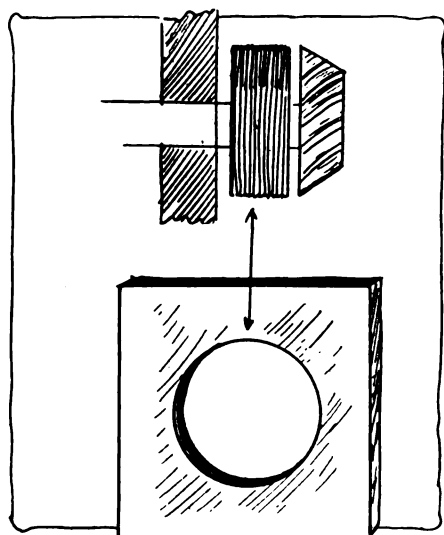
Packard Bevel Pinion Remover (No. 182)

A simple device for removing the Packard bevel pinion is merely an iron plate 12 inches square and about 1 inch thick with a hole threaded in the center large enough to receive the screw collar back of the pinion. The pinion is then removed in an arbor press.—R. R. Sharp, Packard Cleveland Motor Car Co., Cleveland, O.

Special Bearing Pullers (No. 183)

Where a great many cars of one model are repaired in the course of a year, a bearing puller for inaccessible bearings will be found to be of advantage. One type for ball bearings is shown in Fig. 1 and another for roller bearings, and some ball bearings, is shown in Fig. 2.

The former consists of a plate with several holes drilled near its circumference. Through each one of these holes is placed a metal strap with a small nut and washer on the end. The thinness

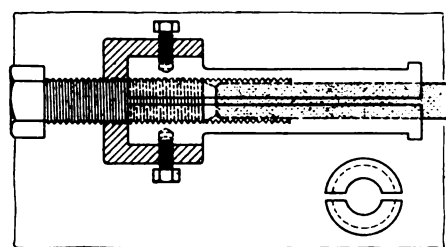
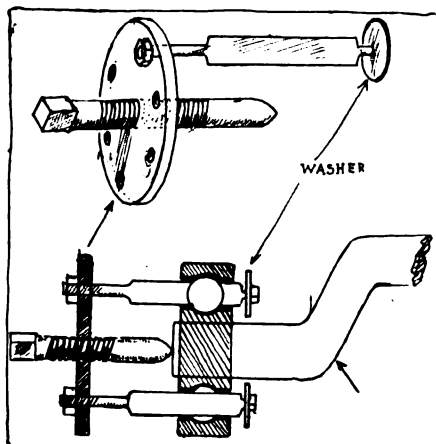


(No. 182)
Plate for removing Packard bevel pinion

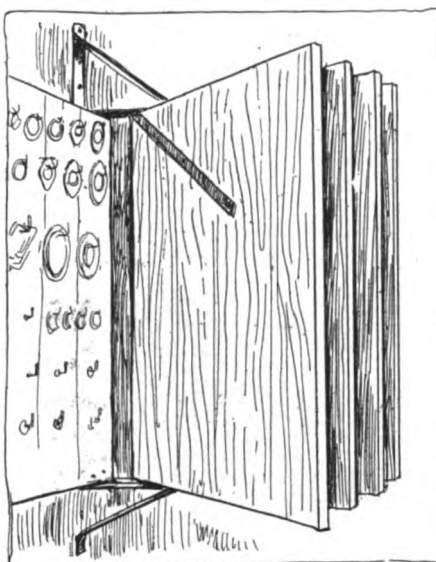
of the straps allows them to pass between the balls and when the washers are bolted in place the bearing may be drawn out by turning down on the big screw in the center. With this device it often is possible to take out a defective bearing without dismantling the motor, gear-set or axle, as the case may be.

The puller shown in Fig. 2 can be used only when the shaft inside the bearing has been removed. The principal part of the puller is shown at the top of the drawing, and the diameter is but slightly smaller than the bore of the inner race. There is a deep shoulder at the left and a small one at the right. After this piece has been turned to shape it is sawed in half. Then a piece is made to go in the hole so that when it is inserted the puller is its original size. By this simple scheme the two halves of the puller are first slipped through the hole in the race and then the center piece expands them so that the right shoulder catches on the edge of the race.

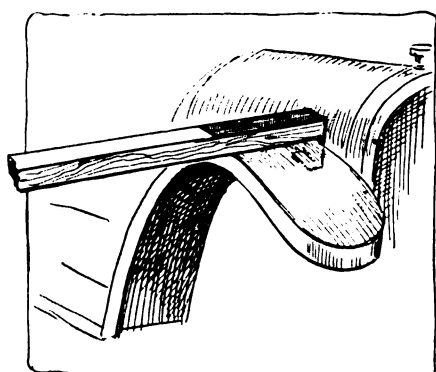
In order to pull the bearing off, a cap, as shown, is placed over the



(No. 183)
Fig. 1—Upper—Puller for removing ball bearing at front of crankshaft. Fig. 2—Lower—Internal bearing puller



(No. 186)
Hinged boards for carrying gaskets and similar small parts

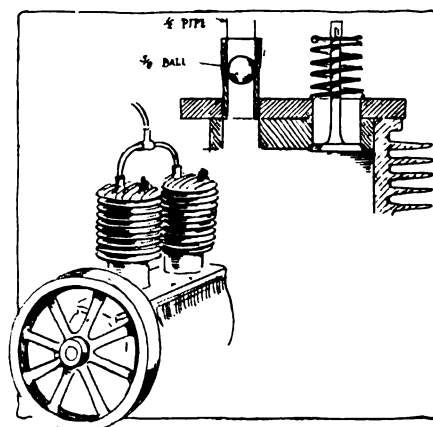


(No. 184)
How fender is straightened

large end of the puller itself and fastened in place by means of the two screws which fit into holes in the shoulder of the two halves. Then by screwing up on the screw in the center of the cap the bearing is pulled off.—John Van Benschoten, Van's Garage, Poughkeepsie, N. Y.

Fender Straightening Tool (No. 184)

A tool for straightening bent fender irons is shown herewith. With this device, which is simplicity itself, the time required to bring a fender back to shape is reduced from hours to minutes. Usually when the supporting irons of a fender are bent it is considered neces-



(No. 185)
Old air-cooled motor with special heads to allow its use as an air compressor

sary to remove it from the car and do the work in a vise, a job that requires several hours time, but with the tool illustrated the work may be done just as well in 5 minutes or less.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

Old Motor Makes Air Pump (No. 185)

A satisfactory air compressor can be made of an old motor. In this case two cylinders of a Franklin were used. The heads were sawed off and new ones substituted, the new ones giving only 1/32-inch clearance. The intake valve is of the poppet type 1-inch in diameter and is held closed by a light spring; the exhaust valve is a brass or bronze ball 5/8-inch in diameter. The discharge pipe is 1/2-inch. The compressor is driven by belt from the line shafting, and to give sufficiently smooth running is fitted with a flywheel about 2-feet in diameter, obtained from a junk yard. Between cylinder and head there is a Mobilene gasket.—Arthur Cashmore, foreman, Franklin Motor Car Co., Albany, N. Y.

Vertical Shelves for Gaskets (No. 186)

Probably the best way to carry gaskets and similar parts either in the repair-shop, stock room or the accessory store is by hanging them up. A large variety of gaskets can be stored in a small space by using several boards all hinged to the same support just like so many doors. The form of each type of gasket is painted in black paint beneath its hook so that there is no danger of a new lot of gaskets being misplaced.—R. R. Sharp, Packard Cleveland Motor Co., Cleveland, O.

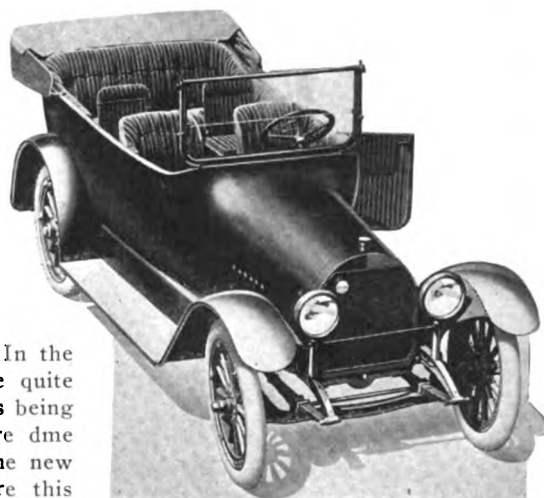
New Kissel Five-Passenger Four at \$1,050

Larger Four and Small Six Continued—Detachable
Tops Feature Two Larger Models—Few
Mechanical Changes

FOR the 1916 season the Kissel Motor Car Co., Hartford, Wis., has made a reduction in price in the 42-6 and 36-4 models which are continued for this season and added a new model known as the 32-4. The all-year car is continued with refinements and for 1916 combination touring and sedans or coupes may be had on any the chassis except the new 32, which is only supplied with the detachable coupe top. Five-passenger bodies are used on the fours and a seven-passenger on the six.

The new detachable tops are attached at 10 points, at six points to the heavy steel brackets and at four points to the regular top iron of the touring car or roadster. An inverted top iron is used so that when the top is on there is no indication of the parting line between the two halves of the body. The frames of the new all-year tops are built of heavy white ash and elm with mahogany sashes. These frames are covered with sheet metal and aluminum and the roof is three-ply white-wood covered with canvas. The material and construction of the rough are such that warping is

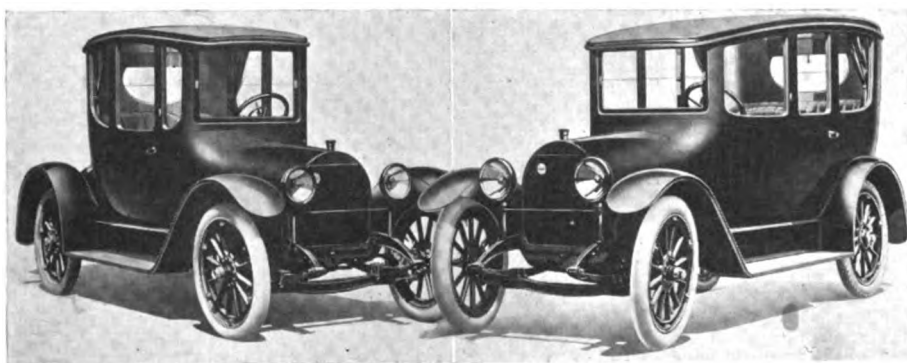
rendered practically impossible. In the outfitting these bodies are made quite luxurious, the windows and doors being French plate glass, and there are dome lights, leather trimming, etc. The new four is entirely an added feature this season, while mechanically only slight changes have been made in the 42-6



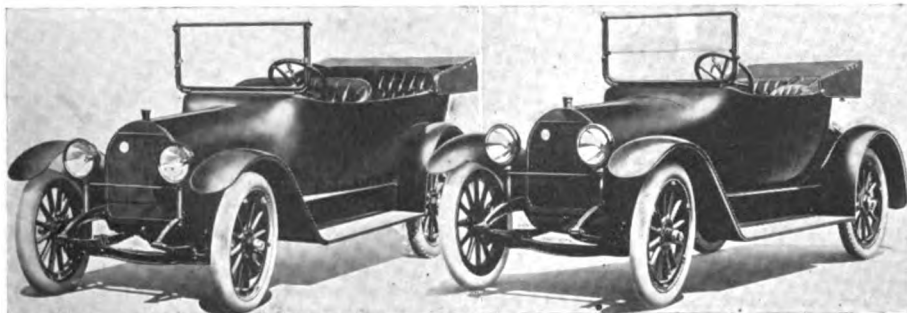
KisselKar seven-passenger six with de luxe corridor body

SPECIFICATIONS OF THE KISSEL LINE FOR 1916

	32-4	36-4	42-6
Price—			
Touring	\$1,050	\$1,250	\$1,485
Number of cylinders.....	4	4	6
Shape	L-head	L-head	L-head
How cast	Block	Block	Block
Bore	3 $\frac{7}{8}$	4 $\frac{1}{4}$	3 $\frac{5}{8}$
Stroke	5 $\frac{1}{2}$	5 $\frac{1}{2}$	5 $\frac{1}{2}$
S. A. E. horsepower.....	24	29	31.5
Carbureter	Stromberg	Stromberg	Stromberg
Ignition	Westinghouse	Westinghouse	Eisemann
Starting	Kissel	Kissel	Kissel
Lighting	Westinghouse	Westinghouse	Westinghouse
Clutch	Cone	Cone	Cone
Gearset	3-speed	3-speed	3-speed
Wheelbase	115	121	126
Front tires.....	32 x 4	36 x 4	36 x 4
Rear tires.....	32 x 4	36 x 4	36 x 4
Wheels	Wood	Wood	Wood
Steering	Left	Left	Left
Type rear axle.....	Floating	Floating	Floating



Left—Four-cylinder KisselKar coupe. Right—Six-cylinder KisselKar—sedan. Both have detachable tops



Left—KisselKar six with five-passenger body. Right—KisselKar four-passenger roadster on six chassis

and 36-4 models to bring them thoroughly up to date in all particulars.

The new 32-4 is fitted with a high-speed Kissel built motor and like other Kissel cars the intake manifolds are cast integrally with the cylinders with the exhaust manifold exterior.

The 2-inch valves are located on the right and are enclosed by two plates. Gray iron is used for the piston castings, as for the cylinders. The pistons are required to balance within $\frac{1}{2}$ ounce and the rings, three in number, are of the same grade of iron as the pistons and cylinders, although softer. The pistons are provided with $\frac{1}{4}$ -inch wrist pins, which are pressed into the pistons and secured by a set screw and nut. The wrist pin bearings are Non-Gran bronze. The connecting rods are .40 carbon steel, drop forgings, of I-beam section, and have their lower bearing caps secured by two $\frac{9}{16}$ -inch .30 carbon steel bolts and castellated nuts. Adjustments can be made at these bearings by removing shims which are placed between the caps and the connecting rods. The bearing material used at this point is Fahrigr metal, 2 inches in diameter and $2\frac{1}{8}$ inches in length.

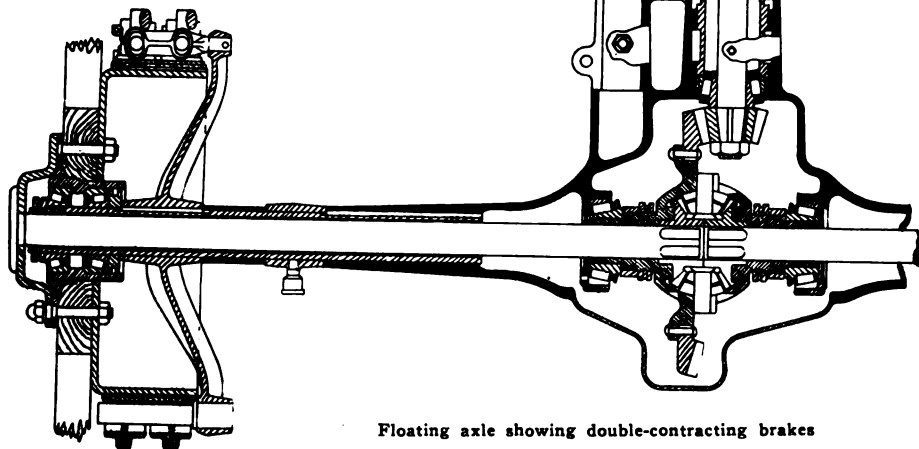
For the crankshaft .40 carbon steel is

used, the length of the shaft being $30\frac{3}{4}$ inches. The front bearings are $2\frac{1}{8}$ x $2\frac{1}{2}$, the center $2\frac{1}{8}$ x $2\frac{1}{2}$, and the rear, which takes the side thrust of the starting motor, is $2\frac{1}{8}$ x $3\frac{3}{4}$. The bearings are carried in bridges in the crankcase, which is of aluminum alloy built quite deep for rigidity. The camshaft is made with all of the cams integral, the shaft being carried on three bronze bearings and driven from a set of helical timing gears of $8\frac{1}{4}$ normal pitch mounted in a dust-proof casing.

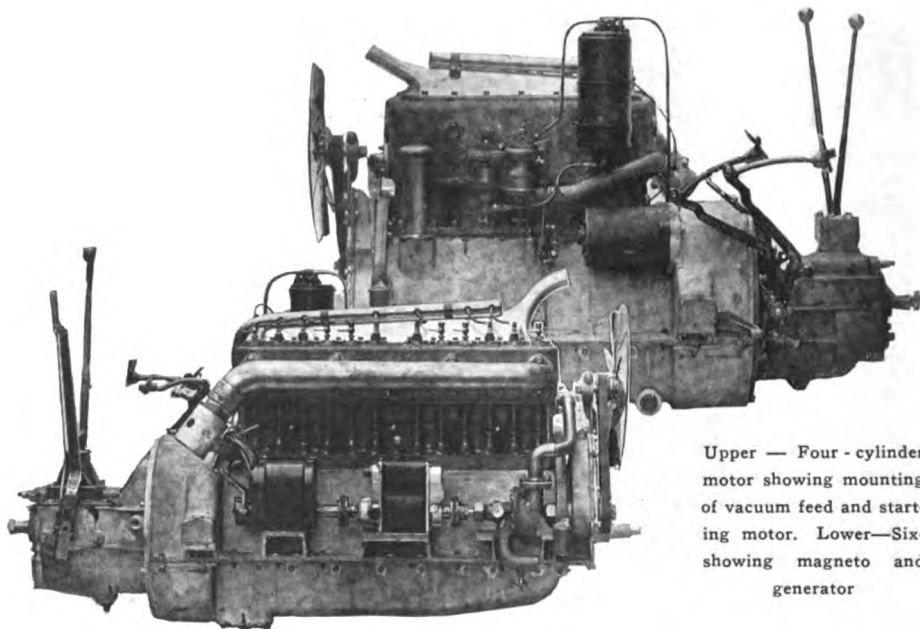
Water circulation is positive by means of a centrifugal pump and the lubrication is carried out by a constant level circulating splash system with the oil reservoir conventionally located in the lower part of the crankcase. The carburetor is a Stromberg and the radiator a Mayo, cellular.

Cranking and lighting is by electricity, the starting system being operated by closing the ignition switch and pressing the starting pedal. It is a product of the Kissel engineering force and is so arranged that when the motor is running the lamps are lit directly from the generator. At other times the current is supplied in the usual way from the storage battery. There are two small lamps for the convenience of the driver located under the dash and a dimming switch is provided for the headlights.

A leather-faced cone clutch with adjusting springs under the facing is enclosed in a housing which forms an integral part of the crankcase in the rear of the motor, thus giving a unit power plant, since the gearset is contained within the same housing. The gearset is bolted directly onto the flywheel housing flange in the rear of the crankcase, completing the unit power plant. All parts run submerged in oil and transmit their drive through two Spicer universal joints and shaft to the floating rear axle. This axle is also a product of the Kissel shops. The axle is so constructed that adjustment of the pinion and driving gear can be made without disturbing any other parts. The bearings are Timken and the axle shaft of chrome-nickel steel with all the bearing parts running in oil.



Floating axle showing double-contracting brakes



Upper — Four-cylinder motor showing mounting of vacuum feed and starting motor. Lower—Six-cylinder showing magneto and generator

The front axles are the same as on the other two Kissel models, being one-piece drop forgings of I-beam section, having $2\frac{1}{2}$ -inch depth with special steel spindles heat treated and ground to 1-inch outside diameter and $\frac{1}{2}$ -inch inside diameter, fitted with Timken bearings to carry the wheels. Two hardened steel bushings are pressed on each of the spindles and reamed in place. The spindles are lubricated through holes drilled in the top of the steering knuckle bolts and by a grease cup near the bottom of the steering knuckle.

Both sets of brakes are carried on the rear wheels and are double external. They have 14-inch drums with $1\frac{1}{8}$ -inch width, using 2-inch lining. The wheels are artillery type with twelve spokes. The chassis frame is pressed steel and the sections are 4 inches deep, with $1\frac{3}{4}$ flanges and $5/32$ web. The springs are semi-elliptic front and $3/4$ -elliptic rear.

Steering is by irreversible split-nut and worm. The nut and screw is held in a dust-proof case. The control levers are mounted in the customary manner on the top of the steering wheel. The gasoline tank is in the rear of the frame, being held in place by two strongly riveted malleable iron brackets. It is of pressed steel and has a capacity of 20 gallons. The feed to the carburetor is by Stewart vacuum system.

A full line of bodies with complete equipment is supplied by the Kissel company, the enclosed design being the all-year type which provides detachable coupe or sedan top, converting the touring cars to sedans or coupes, as desired.

The body line for this year is much more complete than for 1915, and with the new model there are now 14 body styles to choose from, whereas in 1915 nine of these were not included in the list of bodies.

Packard Making Big Addition

DETROIT, August 20—The Packard Motor Car Co. has found it necessary to provide large extensions to its already big plant.

At the present time additions comprising nearly 400,000 square feet of floor space are nearing completion. The buildings now under way will cost approximately \$750,000 and will bring the total floor space area of the Packard plant to 48 acres. Work is now going forward on additions to the stamping department, forge, foundry, pattern-shop, heat treating building, truck assembly department, truck stock, service department and car finishing department. The improvements include also a new blacksmith shop 200 feet long and a five-story steel and concrete building 400 feet long for the machining and finishing of chassis parts.

Repairing and Adjusting

Reason for Silent Chain Adjustment

The purpose of adjustment is to provide the correct tension; the use of the tension is to keep the slack side of the chain—the side not pulling—from fluttering or swinging. If the loose side of the chain is free to swing the driven sprocket will have backlash and it will be possible for the chain to move freely against no load and then be brought up with a bump at the end of the slack. This means that the inertia of the parts driven can subject the chain to very heavy blow-like stresses.

One might easily think that this sort of action could not take place until the chain had become quite slack, but this is not true; a very small degree of slack will suffice to shorten the life of the chain a great deal.

Outer Ball Race Must Be Free

The outer race of a ball bearing must be mounted in such a manner as to permit slow creeping. This has two beneficial effects. First, it avoids any possibility of an undesired endwise cramping of the balls in the race; second, such minute wear as occurs in the ball path is distributed around the entire circumference of the latter. To accomplish these results the housing must be accurately bored to such a diameter that the outer race will be a sucking fit in it, and the race is either left entirely free endwise or is confined between shoulders which give it a slight endwise freedom amounting to 1/64 inch or less. Only one bearing on a shaft may be confined endwise in this manner, since otherwise expansion or errors in machining or workmanship would produce undesirable axial or endwise cramping.

Chalk as Filing Lubricant

Oil or chalk rubbed on a file will make it cut smoother on steel or wrought iron, but it cuts slower. The oil may afterward be removed from the file by rubbing with chalk and brushing off with a file card.

Case Hardening Substances

Place horn, hoof, bone dust, or shreds of leather, together with the article to be case hardened, in an iron box. Subject to a blood red heat, then immerse the article in cold water.

Heat the article, after polishing, to a bright red; rub the surface over with prussiate of potash, allow to cool to dull red and immerse in water.

Two other good case-hardening mixtures are 3 parts prussiate of potash, 1 part sal-ammoniac; or 1 part prussiate

of potash, 2 parts sal-ammoniac, 2 parts bone dust.

Why Speedometer Hand Vibrates

If the speedometer dial is unsteady, this oscillation may be caused by one of the following conditions:

1. Flexible shaft may be bent at a sharp angle or may be passed through the springs of the car.
2. The sprocket and pinion at the road wheel may be meshed too tight, or too loose, causing a jerky shaft movement. Clearance between gears should be 1/16 inch. Improper meshing may be due to loose knuckle.
4. Sprocket and pinion may not be of the same pitch.
5. Bearing may not be properly lubricated.
6. Sprocket on road wheel may be eccentric.

Improved Soldering or Tinning Acid

Muriatic acid, 1 pound; put into it all the zinc it will dissolve, and 1 ounce of sal-ammoniac; then it is ready for use.

Fluxes for Soldering or Welding

Metal	Flux
Iron	Borax
Tinned iron	Resin
Copper and brass.....	Sal-ammoniac
Zinc	Chloride of zinc
Lead	Tallow of resin
Lead and tin pipes...	Resin and sweet oil
Steel—Pulverize together 1 part sal-ammoniac and 10 parts borax and fuse until clear. When solidified, pulverize.	

Fire-Extinguishing Chemicals

Carbon tetrachloride is an excellent fire extinguisher. It is a liquid which may be purchased at any drug store for 15 cents a pound. Another compound that has been used with success is two parts of common salt, one part ammonium chloride and seven parts water.

Marmon Crankshaft Removal

The Marmon crankshaft is unusual in that main bearings and crankshaft are removed as a unit. Each of the seven crankshaft bearings is contained in the center of a circular, split-aluminum casting of diameter slightly in excess of that of the crank circle and these seven castings are first fitted to the crankshaft. This makes for a most excellent bearing finish, for the crankshaft can be held in any convenient manner while each bearing in its aluminum carrier is scraped and tested for proper contact. Also the degree of tightness of adjustment of each bearing separately can be tried, which is

practically impossible with any other method of crankshaft mounting.

When all the bearings are in place and fitted properly the whole shaft as a complete unit is put into the crankcase, whereupon the aluminum bearing carriers are bolted in place and add enormously to the stiffness of the whole motor. The crankcase has then become a tube with a series of stiff partitions, a tube reinforced at seven places.

Replacing Gearset Bearings

Some embryo repairmen make the mistake of driving annular bearings home by hammering on the end of the shaft. The proper way is to place a piece of lead pipe over the shaft in such a way that the blow is borne by the outer raceway of the bearing. If the inner raceway or the end of the shaft is hammered there is danger of breaking the balls.

To Clean Brass

Mix 1 part Roche alum and 16 parts water. The articles to be cleaned must be warmed, then rubbed with the mixture and finished with fine tripoli.

Tempering Steel Tools

After the tool has been hardened by plunging into water it must be tempered by reheating; that is, part of the hardness must be withdrawn. The reheating may be done in a variety of ways and when the temper has been brought to the proper point the tool is again plunged into water and all further action is thus arrested; the tool is now ready.

Probably the simplest way to temper a tool, such as a lathe tool, is to heat the whole to a cherry red before hardening, then the cutting end is immersed in water for an inch or so, until it is hardened. Meanwhile the upper end of the tool remains at a red heat. As soon as the tool is withdrawn from the water the hardened portion is polished with a block of soapstone.

Meanwhile the hardened end is becoming hot due to the heat traveling down from the hot end, and soon vari-colored oxides begin to form on the polished part of the surface, ranging through the rainbow from pale yellow to dark blue, and these slowly move toward the point, the yellow being first. When the proper color reaches the cutting edge the tool is plunged into water until it becomes cool and it is then ready for use. Ordinarily a pale straw yellow is required for lathe tools. Below is a temperature table.

	Fahr.
Lathe tools.....	Straw yellow 450°
Wood-cutting tools.....	Darker yellow 470°
Screw taps	Yellow 490°
Chipping chisels....	Brown yellow 500°
Hatchets	Brown purple 520°
Saws	Light purple 530°
Percussion tools....	Dark blue 570°
Springs	Very dark blue 600°

1500-lb. Commerce at \$975

Three Types of Bodies at Same Price—
Standard Units Used Throughout—
Accessibility and Ruggedness
Are Features

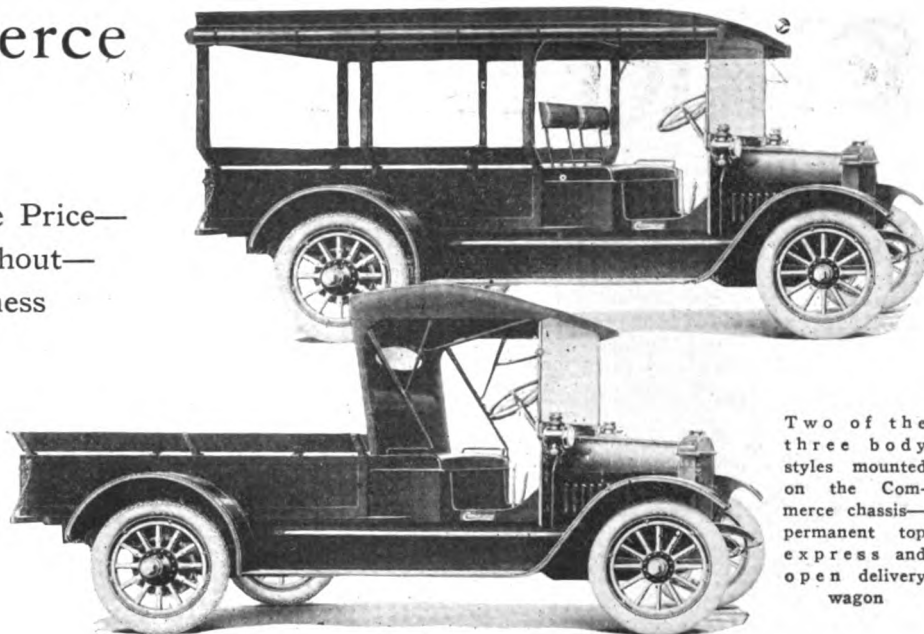
THE Commerce Motor Car Co., Detroit, is placing on the market a single 1,500-pound capacity commercial chassis fitted with three bodies at the same price, namely \$975. These are a panel delivery body, an open express body with a mohair top for the driver and an express body with a permanent wood top. Throughout the construction of the vehicle standard units have been made use of.

The motor is a Continental and gearing and clutch come from the Detroit Gear & Axle Co.

There are three large crankshaft bearings to which oil is fed under pressure from a plunger pump operated off the camshaft, drip troughs catching the overflow and caring for the connecting rod lubrication. A separate feed supplies the helical front end gearing. There is a gauge that shows whether there be the proper supply of oil in the pan.

Three point suspension is used for the power plant, the front end resting on a dropped cross member of the frame. This cross member does not carry the radiator and the reason for this is interesting. It is certain that the frame of any car of this sort will weave, so the radiator has a stiff cross member with nothing to do save support the water carrier. This cross member is not riveted or bolted rigidly to the frame sides, but is secured by only two cap screws that are put through the upper flange of the main frame at each side. Any weave that takes place in the main frame cannot twist the radiator support.

Brakes have settings at three points, so that their efficiency can be maintained



Two of the three body styles mounted on the Commerce chassis—permanent top express and open delivery wagon

at the full till the last scrap of lining is used up.

The rear end is a built-up construction

COMMERCE 1,500-POUND DELIVERY

Price—

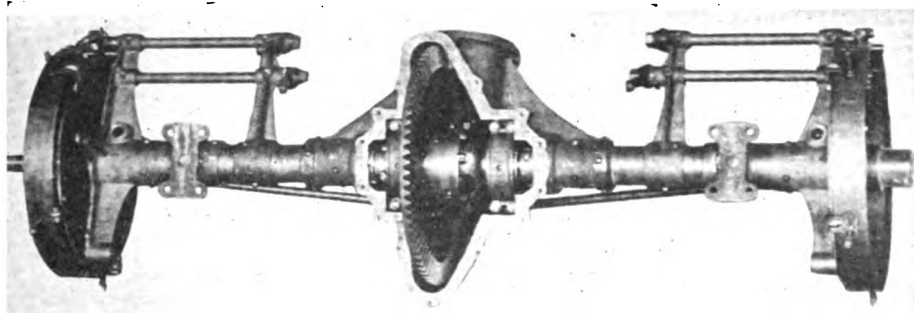
Panel delivery	\$975
Open express	975
Wood top express.....	975
Make of motor.....	Continental
Number of cylinders.....	Four
Shape	L-head
How cast.....	Block
Bore	3
Stroke	5
S. A. E. rating.....	14.4
Magneto	Eisemann
Carbureter	Breeze
Clutch	Cone
Gearset	3-speed
Wheelbase	120
Tires (pneumatic).....	34 x 4
Steering	Left
Control	Center
Type rear axle.....	¾-floating

with a cast steel center that carries the differential and bevel wheels, there being four differential pinions. Large ball

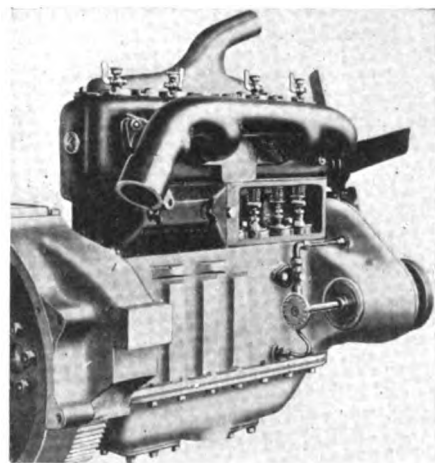
bearings support the whole. The axle is three-quarter floating, with Hyatt heavy duty bearings to carry the wheels. Brakes are 15 x 2. The Commerce company has abandoned the single universal joint construction in favor of two universals with a torque stay.

The front axle is a heavy I-beam section. Rear springs are 50 inches long and 3 inches wide, while the front springs are 36 x 2¼ inches. Shackles are bushed with bronze, and the rear end hanger has a large grease pocket which cares for the lubrication in the event of the driver neglecting his grease cups for a few days. In laying out the brakes the countershaft has been located on the line between the two front end hangers, so that movement of the axle does not affect the brakes.

Standard tire equipment consists of United States pneumatics, non-skid on the rear wheels and plain in front, while one spare rim is included in the equipment. The windshield is in keeping with the rest of the fittings and the oil lamps are heavy gauge.



The Commerce axle is so constructed that every part is easy to get at for inspection and adjustment; brakes have three adjustments



Fairly light weight combined with rugged construction mark the unit power plant

The RETAIL NEWS

SOUTH

The Paige Motor Sales Co., Louisville, Ky., has opened salesrooms at 725-29 South 4th street. It was recently incorporated at \$10,000. Edward A. Briel, connected with the Motor Sales Co., which handled the Paige up to August 1, is president and manager. C. E. Schwab is secretary and sales manager.

Andrew A. Fekete and Harry McGinnis, Norfolk, Va., who operate the Auto Sheet Metal Works, on Grandy street, have opened a new shop at 127-29 Brook avenue.

Dickinson Bros., Glasgow, Ky., will erect a garage.

The Etowah Ford Auto Co., Birmingham, Ala., is having a \$3,500 brick building erected on Lower Broad street for use as a garage. The proprietors are F. L. Allison and C. Bagwell.

The Clarksville Vulcanizing Plant, Clarksville, Tenn., has opened up on 3rd street.

MOUNTAIN

W. R. Wood, Denver, has let the contract for a garage, to cost \$7,000.

The Automobile Sales Corporation, Denver, Studebaker and Franklin distributor, have moved from 1512 Broadway into new and larger quarters at 1504 Cheyenne place.

Warriner & Cochran, Denver, Maxwell dealer, has moved from 1624 Broadway to the new Maxwell branch headquarters at 1248 Broadway.

J. H. Callahan & Co., Denver, has opened a Cleveland Spring Cranker agency at 1616 Broadway. One member of the new firm is Bert Clark, formerly agent for the Boston Ford Starter Co.

L. E. Kelton, Denver, formerly Haynes salesman for E. J. Johnson, has secured the Haynes agency for Colorado and has opened temporary headquarters at 1616 Broadway.

The Mid-West Auto Sales Co., Denver, Colorado distributor of the King, Jackson and Regal, has moved from 220 16th street to 1512 Broadway.

George E. Hannan, 1210 Broadway, Denver, distributor of the Crescent, Allen and Vulcan, has discontinued the last two and taken on the Pullman.

Lester G. Palmer, 1515 Cheyenne place, Denver, has taken over the business of the Western Motor Car Co., of which he was president, and is now distributor for the Paige exclusively, having given up the Abbott-Detroit and the Willys and Garford truck.

The Platt-Fawcett Motor Co., 1249 Broadway, Denver, has discontinued the Chalmers agency and is now distributing the Stearns and Mitchell. This is the first time the Stearns has been represented in this territory for a year or more.

Harry E. Maines, Denver, distributor of the Chevrolet and Monroe, has moved from 1811 Glenarm place to 439 Broadway, where he has larger quarters.

A. W. Eaton, Denver, formerly manager of the Denver branch of the Underwood Typewriter Co., has been made manager of the Colorado Motor Car Co., 1512 Broadway, distributor of the Reo, Saxon and Cole.

Bert Clark and W. H. Jones, Denver, have formed a partnership to handle the Chevrolet. They have located at 1616 Broadway.

The Regal Sales Co., Denver, has been formed by E. B. Tibbals and C. E. Anderson to handle the Regal, Jackson and King.

EAST

The Gadabout Motor Corp., New York, has leased space on the fifth floor of 1764 Broadway.

Kernan, White & Clancy, Marlborough, Mass., are receiving bids on a one-story garage, 63 x 98.

Umbur Garage is the name of a new business being opened up in Woodsdale, W. Va.

The New Jersey Auto & Supply Co., Camden, N. J., will build a two-story garage and repairshop, 80 x 120, at Delaware avenue and George street.

The Carolinas Automobile Supply House, 221-23 North College street, Charlotte, N. C., has been formed to job accessories. The officers are: President and manager, Joseph G. Fitzsimmons; vice-president, William A. Graham; secretary and treasurer, Wade E. Montgomery.

The Union Motor Co. has been formed in Elizabeth, N. J., to conduct a repair business. It is capitalized at \$125,000.

The Thornton-Fuller Auto Co., 312 South 24th street, Philadelphia, will erect a one-story addition, 53 x 128, to enlarge its service station.

The Packard Motor Car Co. of Pittsburgh has purchased the northwest corner of Baum boulevard and Enfield street, 148 x 245, for \$25,000. A brick and stone building will be erected costing from \$250,000 to \$300,000.

August Sawinske, Rochester, Minn., has opened a store for the sale of lubricants.

The Chevrolet Motor Co. of New York has leased the new Mullen Bros. building at West 57th street and 11th avenue and will remove its present headquarters to this location.

James Riordan, New York, will build a garage at 438-54 West 18th street, at a cost of \$65,000. The property is 225 x 93.

Browning & Otto, Wheeling, W. Va., have opened a repairshop and accessory store at National road and 6th street.

The Ford Motor Co. has opened a branch in Utica, N. Y., in the Whiffen building on Bleeker street. F. W. Moyer is manager and G. H. Hughes assistant.

J. W. Dinsmore, Derry, N. H., has sold his automobile business to R. Seavey, of the Central street garage.

Frank Bentley, Anthony, R. I., has resigned from the Opswell Garage Co. and has entered into partnership with his brother, Louis S. They will operate a repairshop.

The Whitcomb Motor Co., Derry, N. H. has moved to the Central street garage. M. Blaisdell has retired from the firm, leaving R. Seavey in full control.

Harry Stahler, Lyndonville, Vt., has leased a new garage now being built

near the Pleasant View House. He will move his automobile repair business there when the building is completed.

F. E. Saunders, for several years identified with motor companies in Boston, is now in charge of the used car department of the Winton branch in that city.

W. J. Shaw, for the past 15 years master mechanic of the Arnold Print Works in North Adams, Mass., has taken the agency for the Studebaker in Berkshire county.

The Blaisdell Automobile Co., Dexter, Me., has taken the agency for the Maxwell.

The Becker-Stutz Automobile Co., which took over the Stutz in Boston last week and located at 911 Boylston street, has moved to 793 Boylston street, where it has the entire building.

The Oldsmobile Motor Co. of Boston has leased the building on Landsdowne street, Cambridge, formerly used by the Buick company as a service station, and will maintain it as a repair department.

Mitchell & Smith, Boston, a large accessory company, has enlarged its quarters. It has secured more space at 1090 and 1092 Commonwealth avenue.

The Regal Motor Co. of Boston will occupy part of a new building just erected at Commonwealth avenue and Beacon street, the other sections of which will be used by the Reo and Hupmobile dealers.

The Delion Tire Sales Co., Hartford, Conn., has opened a retail and wholesale salesroom at 203 Allyn street. William W. Lester, formerly Brush representative and later identified with the Paige representation, and Roy J. Besette, formerly of the Besette Novelty Machine Works, are the proprietors.

The Pullman Sales Co., Inc., of New York, former eastern distributor of the Pullman, has released its agency contract following the adjustment of financial claims against the company. Pullman service is continued by the Kent Motors Corp. at 1700 Broadway, New York, which has also succeeded to the export wholesale and retail agencies of Marion cars and the Abbott-Detroit eight.

COAST

O. H. Hayes, Pasadena, will erect a garage and machine shop on South Fair Oaks avenue.

The Central Garage, 757 Orange street, Riverside, Cal., has been sold by George H. Harsh to C. B. Rome and Allen C. Wilson.

J. F. McSwain, 241 East First street, Long Beach, has established a Knight tire distributing agency.

Stutt Bros., Dodge distributors in Los Angeles, have taken possession of their new building at Citrus and Fourth streets. They have 10,000 feet of floor.

J. W. Stephens, Porterville, Cal., has opened salesrooms for the Dodge in the White building on Putnam avenue near Main street.

W. W. Cameron & Co., Hanford, Cal., has sold its garage business to Ben Worley and Ray Gamble. The Cameron company will retain the Maxwell agency.

E. A. Parkford, Ontario, Cal., has opened the Casa Blanca garage, which will be operated in connection with the new hotel of the same name. The garage is at A street and Fern avenue and has 15,000 feet of floor.

A. H. Sweetland, Los Angeles, formerly owner of the Electric Auto Co., has opened a repair station at 325 East

Broadway. He will specialize in electrical work.

The Campbell Motor Car Co., Ontario, Cal., has taken possession of a new garage at A street and Palm avenue.

The Crary starter for Ford cars is represented on the Pacific Coast by the Crary Ford Starter Co., with headquarters at 1512 8th avenue, Seattle. A. V. Evans is in charge.

The Chandler Motor Car Co. of California, Los Angeles, has acquired the services of E. N. Sells, one of the best known motor car men on the Pacific Coast. Sells has been placed in charge of the Chandler interests in Santa Barbara, Kern, San Luis Obispo, Ventura and Inyo counties. He was for the past two years in charge of the Earle C. Anthony San Francisco branch.

Hugo Muller, Oakland, Cal., head of the Muller Auto & Garage Co., has taken the agency for the Chalmers for Alameda county and Richmond in Contra Costa county.

A. J. "Elmore" Smith, San Francisco, has been made sales manager of the Reliance Automobile Co., northern California distributor of the King.

Proud & Olson, La Habra, Cal., have opened a supply station at Central avenue and the State highway.

The Stevens & Webster Garage, La Habra, Cal., recently established on Central avenue, now represents the King.

P. H. Baker, Tehachapi, Cal., proprietor of the Ford agency, is now operating a garage and machine shop. Traffic over the California boulevards this summer has made the garage business exceptionally good in this place, and the Roy C. Wiggins Garage and the George Williams Supply Co. have also been exceptionally busy.

The A. L. Rider Co., Pasadena, Cal., has taken the Chalmers agency. It is at 160 East Colorado street.

J. F. Wilber, Pasadena, Cal., has secured the agency for the Regal, with headquarters at Clark's Garage.

The Crown City Auto Radiator Works, Pasadena, Cal., of which Fred Niederwefrer is the proprietor, has moved to larger quarters at 43-45 East Union street.

The Oxnard Garage, Oxnard, Cal., one of the oldest and best known in this section, has taken the agency for the Dodge and Hudson. The garage heretofore has confined its activities to the garage business.

Jack Killip, owner of Killip's Garage in Camarillo, Cal., will open a garage and Studebaker service station in Oxnard within a few days. He is Studebaker dealer in the south half of Ventura county. The new garage will be 50 x 140. Killip has also purchased the Oxnard Cycle Shop from R. G. Naumann and will divide his time between the Camarillo garage and his new one.

W. M. Jenkins, Los Angeles, who left last summer to take up active work in the east when the Master Carbureter Co. opened the Detroit factory, has returned to Los Angeles as Pacific Coast representative of the Master interests with headquarters in Los Angeles. F. A. Hartwell, formerly with the Southwestern Carbureter Co., Phoenix, Ariz., Master distributor in Arizona, New Mexico and Texas, is now in charge of the new Master salesroom in Los Angeles.

Walsh & Bennett, Blythe, Cal., are the proprietors of the first garage on the desert road between Mecca, Cal., and

Vicksburg, Ariz. The Blythe Garage will have a complete stock of accessories on hand and will sell a medium-priced light car.

A. J. Barnhard and K. M. Barton, Glendale, Cal., have opened a new repairshop at 313-315 South Maryland avenue.

J. R. Pirtle, Glendale, Cal., Maxwell dealer, is now located in a modern brick building at Brand and Colorado boulevards.

George Hanequet, Glendale, Cal., formerly of Los Angeles, has taken charge of the repair department of the Glendale Oil & Machine Co., operated by W. Tupper at 428 South Glendale avenue. The garage was formerly located on Broadway but moved last week. It has the Chandler agency.

R. A. Siple, Glendale, Cal., has purchased the Brand Boulevard Garage, 421 South Brand boulevard, and placed R. Lossing in charge of the Studebaker sales department. L. H. Morehouse, who formerly conducted the Cypress Park Garage at 1230 San Fernando boulevard, is to become an active partner with Siple. Morehouse will have charge of the service department.

Desky & Middleworth, Glendale, Cal., have sold their interests in the Overland Auto Sales Co. to Cook & Kennedy. A large garage and repair department is now conducted at 1312 West Broadway.

J. G. Hunshberger, Glendale, Cal., has purchased the Buick & Cadillac Garage, 535-37 South Brand boulevard. Repairing has been done in the past, but it is the intention of the new owner to confine his garage work to Buick and Cadillac cars. This garage occupies a new brick building.

H. A. Pennebaker and E. H. Carette, Visalia, Cal., have formed a partnership as the Carette-Pennebaker Co. and have the Maxwell agency.

The Los Angeles branch of the Federal Rubber Co. has moved from South Olive street to larger quarters in the Morrison Hotel building at Pico and Hope streets.

NORTHWEST

C. R. Klatt, Madelia, Minn., has bought the stock of McDowell & Co., consisting of motor accessories, electrical specialties and tools.

J. F. Lynch, St. Paul, has opened a Kissel agency under the style J. F. Lynch Co., at 237 West 9th street. He formerly was Kissel branch manager in St. Paul.

The Taylor Motor Co. has been established in Des Moines at 1016 Locust street by W. L. Taylor, formerly of the Saxon Motor Co., Detroit. He will handle the Saxon, formerly sold by the Payne Motor Co. but which desired to concentrate on the Paige.

The Iowa Motor Sales Co., Des Moines, has added the Auburn to its Inter-State business. N. A. Cruzan is manager.

The Finch Auto Co., Clinton, Ia., will remodel and occupy the Chase building on 6th avenue. Rest rooms will be a part of the new garage.

J. C. Vincent has purchased an interest in the firm of Calkins & Murphy, Fargo, N. D., and the name will be Calkins-Murphy-Vincent Co. It distributes the Chalmers and Dodge.

The Bartles Oil Co., St. Paul, has leased for 99 years a triangle in the business center whereon it will erect a

gasoline and oil filling station and seven stores. The foundation will be for six stories. A two-story section will be utilized by the Bartles company for the sale of sundries and the stores will be leased to accessory firms.

Peterson & Ekle, representing the Maxwell in Fairview, S. D., have dissolved partnership, Ekle retiring.

Green & Yahn is a new garage and machine shop firm in Minneapolis. Orra Yahn has bought a half interest of Clyde Green, formerly sole proprietor.

The Joswich Mfg. Co., St. Paul, has removed from 352 Cedar street to the former Ford quarters at Fifth and Market streets. The company has added the Saxon to the Chandler line which it has carried.

A. L. Danek, Silver Lake, Minn., who has just taken the Ford agency, will erect a large garage. He represents the Overland also.

A. J. LaDuke, manager for five years of the L. J. Mueller Furnace Co., Minneapolis, has bought a half interest in the Allen Motor Car Co., 113 Tenth street south, and the new arrangement of officers is: President, J. E. Walker; vice-president, John Burmeister; secretary-treasurer, A. J. LaDuke.

P. F. Amo, Duluth, Minn., has bought the garage and machine shop of Samuel Morehouse, Bristol, S. D.

Charles Stude, Brewster, Minn., is altering a building for use as a garage and repairshop.

M. Vobayda, Lawton, N. D., is building a garage and warehouse. It is nearly completed.

Bentley & Reverts, Rochelle, Ill., have bought the garage of A. R. Robert and C. L. Stebbins in Brookston, Minn.

Porter Nelson, Ennis, Mont., has been made dealer in the Dodge Bros. car and is constructing a concrete garage.

Kirstein & Augstad have opened a repairshop in Madison, S. D.

Clyde Hinkley has been appointed manager of the Nissen Automobile Co. in Watertown, S. D.

The Atkins-Fugle Motor Co. has bought the repairshop of Olaf Skaran, Grand Meadow, Minn.

Henry Setzer and B. P. Jungers have opened a garage in Kilkenny, Minn.

Schoffman, Crowlet & Veltum, a new firm, has taken over a garage in St. James, Minn.

Fred W. Turner is to open a garage in Dickinson, N. D. It will be of brick, will cost \$35,000 and will include a repairshop.

L. W. Harris, Fort Yates, N. D., will open a garage and repairshop in the McCaull-Webster building.

The Walter S. Milnor Co. and the Western Motor Supply Co. have moved into the new Milnor building at Harmon place and 12th street, Minneapolis.

The Auto Tire Sales Co., Minneapolis, has moved into a new building at Harmon place and 11th street. It has taken the agency for the Norwalk tire.

The McNaull Tire Co. has opened a

Ten Guards

Page 5

branch at 1514 Hennepin avenue, Minneapolis, in charge of C. C. Young and A. J. Pyle, of Toledo.

C. C. Case has bought the property of R. H. Blum, Rochester, Minn., and will erect a garage.

The Hellie Auto Co., Albert Lea, Minn., has sold its repair department to George Peterson and Joseph McGann.

R. J. and C. W. Dickover, St. Paul, have bought the garage business of L. F. Scheppke, Sparta, Wis.

Sigurd Hanson, White Rock, S. D., has secured the interest of F. J. Nosker in the garage of Nosker & Hanson.

Frank Hagadorn and George Sauslie will build a garage in Renville, Minn.

Mike Kieffer, Kimball, S. D., is remodeling his livery barn into a garage.

OMAHA, August 23—During the past month there have been a number of changes among the dealers. The Jones-Opper Co. was formed and has taken the Reo agency in Nebraska and western Iowa. Jones is a Hastings man and will handle the business in that part of the state. From the Omaha salesroom, J. M. Opper will take care of northern and eastern Nebraska and western Iowa. C. M. Van Vleet, a well-known automobile man of Omaha, has also gone to the company. The salesroom is at 2043 Farnam street.

An Apperson branch has been established in Omaha. The salesroom at 2417 Farnam street is retained. Joseph C. Roberts is general manager and J. H. Dejong, who has been connected with Apperson sales here for several years, is sales manager.

L. E. Doty, 2027-29 Farnam street, has taken the agency for the Velie. This will be sold in addition to the Chevrolet.

F. A. Bixby, who has had charge of the sales end of the automobile business of the Lininger Implement Co., has been made district manager for the Briscoe Motor Co. G. H. Houliston has succeeded him at the Lininger company to push the sales of the Oakland.

The Omaha branch of the Fisk Rubber Co. has moved into a new two-story brick building at 24th and Farnam streets. J. H. Lionberger is manager.

SOUTHWEST

The Quick Tire Service Co., which has branches in five cities in Texas and others in other southern states, has opened a branch in Houston at Main and Polk streets. J. R. Davis is manager.

Rupert Cox, Beaumont, Tex., has purchased the Beaumont branch of the Southern Tire & Rubber Co. He also has taken the Paige agency.

The Duvall Auto Supply Co., 112 Sherman street east, Hutchinson, Kan., is erecting a brick addition for vulcanizing and tire repairing.

The Julian-Harbour Co., Pine Bluff, Ark., has taken the Hudson agency. Its salesrooms are 317 Pine street.

The Cone-Harris Motor Car Co. has opened up in Pine Bluff, Ark., at 208 West Barraque street, and will handle the Jeffery. The proprietors are W. S. Harris and J. C. Cone.

The Fisk Rubber Co. has opened a branch at Phoenix, Ariz., at Central avenue and Van Buren street. The manager is M. M. Reid, formerly Fisk manager in Fresno, Cal.

The Donovan Automobile Co., St. Louis, which heretofore has handled the Inter-State, has added the Paterson dis-

tribution. The manager is Charles C. Donovan.

The Knight Motor Co., St. Louis, a distributor of motorcycles, is about to take a motor car agency. It recently changed its name from Knight Cycle Co.

The American Motor Car, 316-17 McDaniel avenue, Springfield, Mo., has been sold by D. M. Grant and C. V. Holman to M. N. Viers & Sons. This is the second sale of this business in two months, the original owners having been Guy Mace and Alfred Hubbell.

The P. H. Rea Implement Co., Marshall, Mo., is building an addition to its establishment. The company has taken the Maxwell agency.

The Springfield Warehouse & Transfer Co., Springfield, Mo., has purchased the property and business of the Springfield Ice, Fuel & Transfer Co., known as the Eaton Transfer Co., the oldest establishment of the kind in the city. The warehouses of the Springfield Warehouse & Transfer Co. is at 642 West Phelps avenue. Barnard Stonebraker is secretary and treasurer. The purchase and consolidation are said to presage improvements in the equipment.

Jay Phillips, O'Donnell, Tex., plans to build a garage and repairshop.

The Tri-State Motor Co., El Paso, Tex., is erecting a building at Leon and West San Antonio streets which it will occupy as a garage and showrooms. The building will be of reinforced concrete, two stories and basement, and will cost about \$50,000.

The Tate-Gillham Motor Car Co., St. Louis, has opened a service station and salesroom in the Gorlock building at Webster Groves, a suburb.

The St. Louis branch of the L-Ty-To Co., which handles a special preparation for the treatment of tires, has opened a salesroom at 1135 Locust street with G. R. Hutchings in charge. The company formerly had only offices, at 428 Frisco building.

The Koochook Rubber Co., St. Louis, handling supplies, will move from 3152 Locus street to 1120 Pine street.

The Best Service Truck Co., 1120 North 12th street, St. Louis, has been appointed southwestern sales representative of the Gramm-Bernstein Co., of Lima, O., manufacturer of the Gramm truck.

The United Sales Co., St. Louis, has been organized to handle the United States tire. The concern is fitting up salesrooms at 3567 Lindell avenue and will render a 24-hour service. The officers are: President, Edgar G. Nigge-man; treasurer, George J. Breaker; secretary and manager, Frederick C. D. Dobson.

The General Auto Service Co., Kansas City, for the past four months at 1619 McGee street, will move soon to the Hesse building, now under construction at 17th and Oak streets. The company will have 58 x 110 feet on the first floor and 83 x 110 feet on the second. The company now does service work for the International Motor Co., the Cartercar, the Stevens-Duryea, the Westinghouse company, the B. F. Goodrich Rubber Co., the General Motors Truck Co., the Ever Ready Non-Sulphating Storage Battery Co. The company has its own generating plant. W. F. Schreiber is manager of the company.

The Maxwell-Hudson Motor Co., St. Joseph, Mo., has been reorganized and

is now known as the St. Joseph Automobile Co. It handles the Hudson, Marmon and Maxwell. It is under the management of Smith and Van Brunt.

Charles E. Leifer has opened The Auto Exchange at 917 Main street, Little Rock, Ark. Used cars will be sold on a commission basis. A repairshop is being installed and cars will be overhauled before being sold. One feature of the plan is the provision by which the owners of cars may assist in their sale, bringing their prospective buyers to the exchange.

Richard Boehme, manager of the Le Grande Garage, Sedalia, Mo., has opened one of the best salesrooms in western Missouri. With this addition of 60 feet he now has a 150-foot frontage, a brick building, cement floors and modern equipment. Boehme is thus recovering from the fire in February which destroyed the garage. The Maxwell is handled.

The Rockport Machine Co., Rockport, Mo., has built a new brick garage. It handles the Maxwell.

MIDDLEWEST

E. A. Pinkham and brother, Hillsdale, Mich., will operate under the name of the Pinkham Auto Co., in Dowagiac, Mich., and will handle the Ford in Cass county.

Ingraham & Travis, Plainwell, Mich., now is Allegan county distributor of the Studebaker line. They also handle the Maxwell.

Harry Waters, manager of a Benton Harbor, Mich., taxicab line for two years, has purchased a St. Joseph, Mich., taxicab line and will operate four cars.

W. O. Harlow, Kalamazoo, has been made distributor of the Dort in Kalamazoo, Van Buren and Allegan counties.

William Donaldson, Battle Creek, has been made manager of the sales department of the Cushman Auto Sales Co. He was formerly with the United Motors Co.

The Central Garage, Pickford, Mich., has been opened by H. H. Scott and H. M. Draper.

The McDonald Sales Co. has been organized in Cadillac, Mich., by Earl D. and J. T. McDonald, to handle the Ford in Wexford and Missaukee counties.

J. W. McCausland, for several years manager of the Chicago branch of the Stevens-Duryea Co., has been appointed retail manager of the Maxwell Auto Sales Co., Chicago.

E. W. Spencer has been made assistant manager of the Studebaker branch in Kansas City. He was manager of the sales promotion department at the Studebaker plant.

The Stark Auto Co., 2034 Euclid avenue, Cleveland, has taken the distribution of the Dort.

The Steubling Truck Co., Cincinnati, has been incorporated at \$5,000 to operate a truck agency. Walter J. Steubling, L. Gill, William Bramkamp, I. Broenger and Clifford Usinger are the incorporators.

The Vincent-Franz Automobile Co., Columbus, which was located at 909 Gustavus Lane, has moved into a new salesroom at 84 North Fourth street. The new quarters have a repairshop in the rear. Papers have been filed by the company changing the name to the Central West Automobile Co. The concern is the central Ohio distributor of the Oakland.

Predict Rise in Price of All Light Crude Oil

**Texas Operators Point Out That Price
of Gasoline May Go Up in Conse-
quence—650,000 Barrels of
Oil Used Daily**

HOUSTON, TEX., August 23—It is the expressed opinion of leading oil operators of Texas that there will be a big increase in the price of light crude oil, suitable for refining, during the next several months. In consequence of the growing scarcity of the product the price of gasoline will naturally show a corresponding raise. W. H. Gray, of Houston, who has made a study of the situation, says:

"The world is now using approximately 650,000 barrels of lubricating and light crude oils daily. If the present rate of increase in consumption of these oils continues for seven years there will be at that time a total of more than 1,000,000 barrels used daily. Of the present consumption Texas produces about 40,000 barrels daily and Oklahoma about 325,000 barrels daily. The balance of the daily production comes from the eastern fields. Of course, new fields of light crude oil may be found that will make a change in the situation which the consumers and operators are now facing. Prospecting for such fields is going on in many parts of the world. Unless the production is materially increased prices will rise."



ROBERT SEYMOUR
White, Worcester

District Representatives

XXI

This is No. 21 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

Robert Seymour is Worcester County district representative for the White Co. with headquarters in Worcester, Mass. He first entered the automobile industry in the year 1904 under the supervision of the Packard dealer in Boston. Previously he was manager of retail sales for the Stoddard-Dayton Division of the United States Motor Co. with headquarters in Boston.

It is the belief of Mr. Gray that the heavy crude oils of the Mexico fields will not come into demand for refining purposes until the scarcity of light crude forces up the prices far above what they are today.

"There can be no economy in refining Mexican oil as long as Oklahoma and oils of similar gravity can be purchased for less than \$2.50 a barrel," he continued. "It requires five barrels of Mexican oil to produce as much gasoline as can be refined out of one barrel of the light crude oil. Some companies are refining some lubricating stocks from Mexican oil, but they are mixing it with the lighter oils."

The Gulf Refining company has di-

vided the 24-hour daily run of its refineries at Port Arthur and Fort Worth into three shifts instead of two shifts, as heretofore. The same wages will be paid the laborers for the eight hours run as they received for the 12-hour shift. The two refineries are now handling about 50,000 barrels of oil per day.

Packard Technical Men Gather

DETROIT, August 20—Eighty mechanical experts, representing the technical departments of Packard dealers and branches throughout the country, spent four days last week in annual convention at the Detroit plant. Discussion of the Twin Six featured a series of talks by Vice-president J. G. Vincent.

Blakeslee to Distribute Midgleys

JERSEY CITY, August 20—The Midgley Tire & Rubber Co., Lancaster, O., has closed with the Crescent Automobile Co., Jersey City, to represent it in the northern half of New Jersey. George Blakeslee is head of the company.

Oldest Dealers



WILLIAM PARKINSON
Stutz, New York

Men who have handled one car for the longest period of time. Others will appear in this series

way, New York, of which William Parkinson is president. He has handled the Stutz continuously since 1911.

From 1899 to 1903 Parkinson was a member of the Watchung Coal Co. in Orange, N. J., and left the coal business in 1903 to become secretary of the Orange Machine & Mfg. Co., Orange, N. J., a manufacturer of hatting machinery. He stuck to machinery until 1908.

He then acquired the Overland agency in Orange, N. J., and continued until 1911, when he removed across the river to the metropolis to become president and general manager of the Stutz agency which he now heads. The company handles the Stutz in eastern New York and western Connecticut.

THE OLDEST DEALER of the Stutz Motor Car Co., Indianapolis, is the Stutz Motor Car Co., 1804 Broad-



PARKINSON'S BROADWAY SALESROOMS

MOTOR WORLD

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Five Guards Against Loss

The EIGHTEENTH Instalment of Motor
World's Campaign for Greater Profits

THE man who has succeeded can, if he will, tell much to the man who wishes to succeed but has not thus far attained that end. In the selling of accessories the methods that are employed by the big city supply houses may be employed as well by the man whose accessory department is confined to a garage office or showroom.

On the first pages of Motor World this week a Philadelphia accessory dealer has disclosed some of the principles that he regards as essential to profits in the merchandising of accessories, and they are presented by him for the consideration and benefit of every other man who sells accessories. Read them! they are worth while.

Whose Fault?

EVEN a brief scrutiny of the field of the garageman reveals the fact that those who are successful are those whose businesses are run on a system. They have eliminated the hit-or-miss principle and are hitting all the time. A case in point is revealed by the method of one garageman whose "system" is no system at all.

A car owner drove into his garage and asked that the differential on his car be examined, and greased if necessary.

It took the garageman 10 minutes to get out the drain plug, which was rusted in place; 20 minutes were consumed in removing what dirty grease re-

mained in the case and flushing the case with kerosene; then 10 minutes more to fill the case; the material used was 3 pounds of heavy oil.

When asked his charge for the work, the garageman said: "Oh, about fifty cents." The owner paid it and departed.

Making the Owner a Present

What profit did the garageman make? It took him 40 minutes to do the work; he used 3 pounds of oil and possibly a pint of kerosene, for all of which he charged 50 cents. The labor charge should have been 50 cents alone, assuming the rate to be 75 cents an hour. So, it follows that he made the car owner a present of the kerosene and lubricating oil.

If he had noted the time he started on the job and the time when he finished—even if he only did it in his head—he would not have been so badly stung.

"How's business?" asked the Motor World representative, to whom the experience occurred.

"Rotten," returned the garageman, turning to the next customer.

Speed Wins

THE extent to which a car owner appreciates speed in receiving service was well illustrated on Sunday last on a well-traveled highway not far distant from New York. It was during the morning hours when the long procession of cars was starting on its way toward Long Island resorts. Of two gasoline filling stations on adjacent corners, one had a line of several cars waiting their turn. The other had one.

At the first station—where there was a waiting line—the pump operator was slow, much given to talkativeness and not as careful in his manipulation of the business end of the gasoline hose as might be desired. At the other station, the operator was right on his job. He lost no time; he was careful. And what is of greater importance, his pump discharged 5 gallons of gasoline at a stroke.

Why Not 5-Gallon Pumps

In half an hour, investigation revealed that the man who had no waiting line was doing more business than the man who had a waiting line but who from superficial examination appeared to be doing the better business. During that half hour, two car owners, disgusted with waiting, pulled out of their positions in the line and drove over to the other filling station.

Thus, the pump with the 5-gallon discharge, and the careful pump operator won out. The service was quicker and cleaner. Which brings up the question, "Why do not more garagemen and filling stations use the 5-gallon pump?" In nine cases out of ten, gasoline now is sold in 5-gallon units. Then why not give the car owner his 5 gallons, or his 10 gallons, with one stroke of the pump plunger instead of keeping him waiting while the operator cranks 5 individual gallons into a tank?

THE VOTE TO DATE		
	Last Week	This Week
JANUARY	26	9
FEBRUARY	14	5
MARCH	11	2
SEPTEMBER	6	..
OCTOBER	5	7
DECEMBER	2	1
NOVEMBER	1	4
JAN.-FEB.	1	..
FEB.-MAR.	1	..
Total	67	28
Grand Total	95	

You
have not voted yet. Motor World wants your vote on this question. With your vote send a letter setting forth your reasons for choosing the particular month you favor.

Remember
This is a vote for the month in which to hold your LOCAL SHOW—not the National events in New York and Chicago.

Vote Here—Tear Out—Mail

Motor World,1915
239 West 39th St., New York
I am in favor of holding the annual show in the month checked.

<input type="checkbox"/>	SEPTEMBER	<input type="checkbox"/>	JANUARY
<input type="checkbox"/>	OCTOBER	<input type="checkbox"/>	FEBRUARY
<input type="checkbox"/>	NOVEMBER	<input type="checkbox"/>	MARCH
<input type="checkbox"/>	DECEMBER	<input type="checkbox"/>	APRIL

Signed
Position
Company
Address

Pendulum Swings Toward Fall Local Show

Most Significant Feature of Letters Is Request for Simultaneous Announcement of New Models by Manufacturers

THE pendulum is swinging toward the fall show for cities other than New York and Chicago, where the great National events are held each year. But this is not the most significant feature of the great number of replies which are coming in to Motor World's question, "What is the best month for the local show?"

In the batch of letters which have come in this week nearly every third one in ten lays stress on the advisability of car manufacturers making their announcements of new models at a pre-determined time and not throughout what several of the dealers point out to be almost the very heart of the selling season.

Opinion Is Divided

Opinion is divided as to when manufacturers should make their announcements, though all those who make the plea for a change in present methods of announcing new models through the summer months are agreed that all new models should be made public at one time. Some of the dealers favor the first of the year, in conjunction with the National shows in New York and Chicago, and others favor announcements in the fall.

The growing sentiment in favor of a time set apart for announcements to which all manufacturers should agree is well illustrated by a few remarks, picked

at random from the letters which are reproduced on the next page.

"Manufacturers should get together and agree upon a certain date for the

THE DEALERS WHO VOTED

JANUARY

G. S. Hathaway, Hathaway Motor Co., Berea, O.
N. A. Weipert & Sons, Ida, Mich.
H. D. Brasher, Brasher M. C. Co., Columbus, O.
Jones & Saxton, Youngstown, O.
G. Matter, Jr., G. Matter & Sons, Hawley, Pa.
John W. Meiklejohn, Meiklejohn & Son, Waupun, Wis.
W. P. Herbert, W. P. Herbert, Philadelphia
G. A. Willey, Bigelow-Willey M. Co., Philadelphia
R. P. Greenwood, Philadelphia

FEBRUARY

W. V. Orton, Buick Motor Co., Pittsburgh
E. C. Trott, Trott & Stubblefield, Bloomington, Ill.
T. K. Hays, T. K. Hays, Bloomington, Ill.
William Williams, C. U. Williams & Son, Bloomington, Ill.
E. J. O'Reilly, E. J. Thompson Co., Pittsburgh

MARCH

J. L. Murray, Bloomington, Ill.
F. D. Saupp, Hiland Auto Co., Pittsburgh

OCTOBER

S. A. Kruse, Kruse M. C. Co., Cincinnati
A. Weber, Weber M. C. Co., St. Louis
R. P. McAllister, McAllister Bros., Pittsburgh
P. L. Klingler, Klingler Co., Pittsburgh
O. L. Arnold, Ford Motor Co., Pittsburgh
Frank Alderman, L. R. Mack, Albany, N. Y.
Frank Cole, F. H. Cole M. C. Co., Bloomington, Ill.

NOVEMBER

Albert T. Clark, Anderson E. C. Co., Kansas City
J. E. Lockwood, L. M. S. Motor Co., Bloomington, Ill.
Mechaley Auto Co., Stamford, Conn.
Universal Auto Co., Hartford, Conn.

DECEMBER

Karl Gast, Gast & Shobe, Akron, Ind.

introduction of new models," says E. C. Johnson, Philadelphia, and continues: "This date should be strictly adhered to." Chauncey D. Hakes, Albany, says: "To my mind, one of the things that should be regulated is the time the manufacturer puts out his new models." "I believe automobile manufacturers should get out their new models in January," says L. H. Sacket, Columbus, O. "If that were done I believe it would be the best thing that could happen to the automobile industry." "All companies would do better to agree on a time for putting out new models," says R. P. Greenwood, Philadelphia. Geo. C. Donahue, of the Utica Automobile Dealers Association, says: "We are unanimous in our opinion that it is up to the manufacturers to announce their new models in January and not every week in the year."

Statement Made Plain

The opinion of every dealer who has answered in response to Motor World's question is not represented herewith, nor are all the replies published on the next page. Lack of space forbids their publication all at once. Nevertheless the few remarks that are quoted herewith are sufficient to make plain the sentiment that is growing.

Of the twenty-eight dealers whose names are listed herewith as voters this week, nine have voted for January as

the proper month for the local show. The next largest number—seven—have voted for the October show; and next in order are the five who have voted

for the show to be held in February.

An analysis of the votes to date reveals that there is little unanimity of opinion regarding any particular month

from the dealers in any one particular section. Dealers from the South and dealers from the East and West are about evenly divided as to their choice.

More Reasons Why Dealers Have Chosen a Particular Month

January

E. C. Johnson, Philadelphia (Premier and Reo), says:

"Under present conditions, January; but a more satisfactory arrangement could be made. Manufacturers should get together and agree upon a certain date for the introduction of new models. This date should be strictly adhered to and an automobile exhibition held succeeding that date, the nearer to it the better. Until such is done, however, precedent and custom favor the first month of the year."

Chauncey D. Hakes, Albany, says:

"I believe the best time to have the annual show is in January after the New York show is over. This is a dull time for the average dealer, he is looking for business, and the show gives him just the required stimulus. If the show was to be held in the fall we could not demonstrate the car as we would like to. To my mind one of the things that should be regulated is the time the manufacturer puts out his new models. He should have them ready for the New York show and then it would be possible to get them at the other shows later. But January and February are good months for a show. That has always been the rule here in Albany and it has worked well."

L. H. Sackett, Columbus, O. (Inter-State and Chandler), says:

"I think the best time for holding shows in the smaller places is immediately following the style shows of New York and Chicago. The sole reason is that when the styles are started and special chassis are put out by the manufacturers they can be taken from show to show in a sort of circuit. I believe that January is the best time and I also believe that automobile manufacturers should get out their models at that time. If that is done I believe it will be the best thing that can happen to the automobile industry. Contracts with agents can be made at that time and in fact the entire business can be started off in good shape."

R. P. Greenwood, Philadelphia (Overland), says:

"January is far the best time to hold the annual show, as it is then time to stir up new business. The show opens many new prospects which can most conveniently be followed up during the time when the salesmen are not so very busy, and that is directly following the month of January. Another reason is that it is just half way between the new models. All companies would do better to agree on a time for putting out new models, and the show might be so held as to offer better prospects of success."

W. P. Herbert, Philadelphia (Chandler), president of the Philadelphia Automobile Trade Association, says:

"January is the logical time to hold the show here, as dealers as a rule are not busy and have plenty of time to search for new business. It would be far better for the manufacturers to bring their new cars out at show time rather than change the date for the latter to suit the issue of new models. To hold it any sooner would not be a good thing for the automobile business in Philadelphia."

John R. McLaughlin, Columbus, O. (Paige), says:

"I believe January is the best time, and it is also the time to come out with new models. I think it is wrong to come out with new models in the middle of the selling season as at present.

The time to change designs and to spring new ideas is in the first of the year. So the month of January is the one I would select for holding all shows if it were possible, or as soon as possible after the first of the year."

February

Geo. C. Donahue, secretary of the Automobile Club of Utica, says:

"At a meeting of the directors of the Utica Automobile Trade Association, held Friday evening, August 13, it was unanimously voted that we continue to hold the Utica automobile show either in the month of February or March of next year. There are, of course, one or two reasons why a show should be held in the fall and these I believe are based on the sale of enclosed cars. But the fact that the farmer and other people have more money at this time, it is also true that they are going to keep it in their pockets until after Christmas and New Years. We aim to hold our show in February because at this time we can get the people to look the cars over and the time is just right for them to order and receive before the latter part of April, which is the time when the touring season begins. We also were unanimous in the opinion that it is up to the automobile manufacturers to announce their new models in January and not every week in the year. It is true that during the past year or two a new model of some sort has come out about every week or month, and this interferes seriously with the business of automobile dealers. Let the manufacturer announce his car at the New York or Chicago show and then the dealers will have a chance to get the people to the local show to see their models. It would be pleasing to the dealers of Utica and the members of our association to have a full discussion of this matter in the columns of your good magazine."

March

David B. Roberts, Hartford, Conn. (Buick), says:

"March is the best time for a show, because it is nearer the beginning of the selling season; in fact, it is the beginning of the selling season. The time manufacturers announce new models is a big factor in the show proposition. I claim all makers should announce their new models on January 1. Then we could have our show in March, which is the beginning of the selling season in this territory. Have the New York show in February, which gives the makers a chance to get their show cars ready for exhibition. With the announcements made in January we would all have new models for spring delivery, ready for spring business and through the summer and fall. As it came this year, the interruption was right in the selling season, causing a big loss of business to some of the dealers. This would all be eliminated in the January announcements and the March show. New cars are now announced altogether too early; some come out almost 12 months in advance of the calendar year. I did not go to the New York show this year because none of our new cars were to be seen there. I had by new cars six months before."

F. D. Saupp, Pittsburgh (Dodge, Hupmobile and Peerless), says:

"I am of the opinion that the time to interest buyers is when the season of good roads is just begun and when many persons have definitely decided to buy a machine but are undecided as

to what make they prefer. The Hiland company has entered cars in both the fall and spring shows previously held here and better results have been obtained at the latter event."

Fall Show

A. T. Clark, Kansas City (Detroit Electric), says:

"There are a number of reasons in our opinion why it would be better to hold the show in the fall rather than in the spring. Speaking from the gasoline dealers' point of view would say the impetus given business by the early announcement of manufacturers has largely subsided and deliveries are taken care of by October first. From that time on until the spring show there is a necessity of some additional stimulus in order to maintain a steady volume of business. A fall show would afford a splendid opportunity to the dealer to present to the public his closed car. For an electric car dealer the fall show obviously affords the best time and place to show the electric. It follows early the announcement of the manufacturers and gives an opportunity to get the new models before the public at a time when they are especially interested. In the past we have always been confronted during the months of November, December and January with the statement, 'We will wait until the show.' Then we have 30 days live business and are confronted with 'We will wait until your new models are in.' Under the present system there are usually two periods of depression, one while prospects are waiting for the annual show and another when they are waiting for the new announcement. By having the fall show we would eliminate one of these periods and possibly shorten the other."

W. R. Rose, Albany (Overland), says:

"Better results will come if the show is held in the late fall months, November or December. In the spring the buyers hold off until very late and then it is very hard to get the cars here when they are wanted. But by having a show in November or December the orders can be booked and the cars come along as soon as possible. Spring shows to my way of thinking hold up the sales. As for the argument that fall is not the time I would say that this is only my opinion, yet several dealers have expressed themselves in the same manner."

F. N. Sealand, Detroit (Winton), says:

"I consider the best time to have the show is in October, before the cold weather starts. This will give the manufacturers a much better opportunity for their closed car business, as it is about that time that people begin to buy that class of cars. Even September would be a good month for the show."

O. L. Arnold, Pittsburgh (Ford), says:

"October is a rather dull season in the trade and is the time when the Ford company wishes to push its business as much as possible. While they do not do an extensive business in closed cars, there are many customers who buy the regular Ford runabout or touring car in the fall and use it all winter."

Paul L. Klinger, Pittsburgh (Paige), says:

"The spring trade will take care of itself. I am for October, which is about the earliest time the late models are ready for display. Attending the shows yearly are a great number of people who always are waiting for the new cars, and if these are introduced at this time many such people can be induced to purchase."



ACCESSORIES & SUPPLIES :

WOODWORTH PUNCTURE-PROOF TIRE

Leather Tire Goods Co., Niagara Falls, N. Y.

This tire is rendered puncture-proof, it is said, by a strip of chrome leather attached to the inside of the tire. The features claimed for the new tire are that while it is puncture-proof it is resilient and non-heating.

C. B. SPARK PLUG SWITCH

Wm. J. Bailey, 401 Mulberry street, Newark, N. J. PRICE, 25 cents retail. Discounts, 2 dozen, 25 per cent, up to 60 per cent on 50 dozen.

As the illustration shows, this is a



Woodworth puncture-proof tire

spark plug switch which enables the motorist to quickly determine which cylinder is missing.

SEARCHLIGHT MANIFOLD

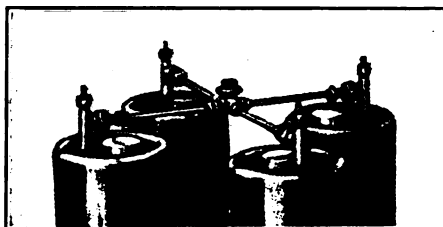
The Searchlight Co., Chicago, Ill. PRICE, \$4.

This device permits four automobile acetylene tanks to be connected so that a large welding job may be handled. The manifold is for those repairmen who find that a large tank of acetylene is more than they ordinarily need and that usually an automobile tank is sufficient. The manifold provides for the occasional job which requires more gas than is in one tank.

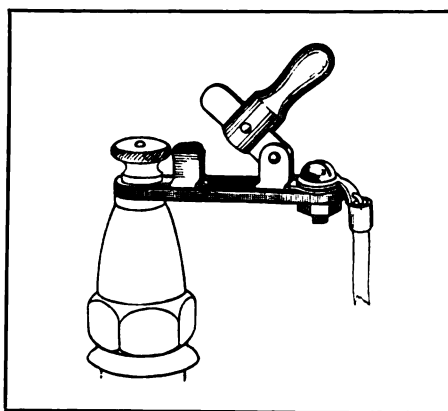
SO-LUMINUM ALUMINUM SOLDER

So-Luminum Mfg. & Engineering Co., 1790 Broadway, New York. PRICE, \$3.50 per pound.

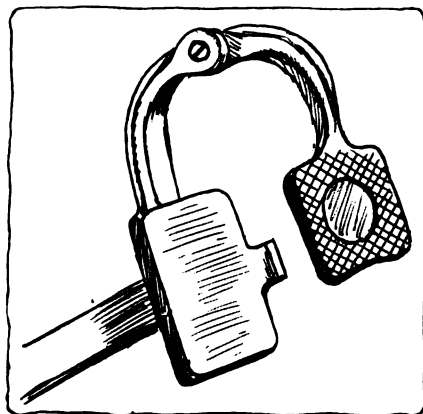
This solder is so strong, it is claimed,



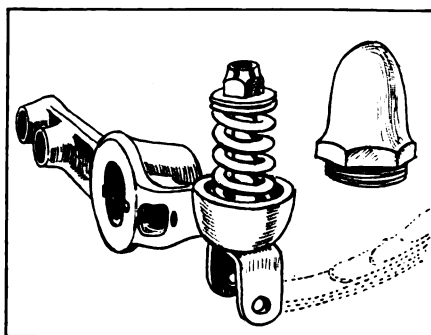
Searchlight manifold connection



C. B. spark plug switch



Two-step extension pedal



Hupmobile 32 shock absorber

that the repaired section is always stronger than the original. It can be used for building up lugs and replacing sections that have been broken out and lost. It is applied with a gasoline torch and no flux is required. Three sticks of solder make 1 pound.

HUPMOBILE 32 SHOCK ABSORBER

Miller & McLean, 120 Liberty street, New York. PRICE, \$10. DEALERS' discount, 33 per cent.

This is a coil spring shock absorber which is fitted to the rear transverse spring on Hupmobile 32 models.

LITTLE GIANT CAUSEWAY

Little Giant Causeway Co., Pontiac Bldg., St. Louis, Mo.

The object of this device is to enable



Little Giant Causeway

a car to pull out of deep sand or mud. It is like a corduroy road on a small scale. One of these devices is placed under each wheel. When not in use they may be carried clamped on the under side of the runningboard or in the tool box.

TWO-STEP EXTENSION PEDAL

Van Derbeck-Sayers-Murdock Co., Circle building, New York city. PRICE, adjustable model, \$2.50; for Fords, \$2.

This device permits a short person to control the pedals without unnecessary reaching. It has a serrated joint so that the extension pedal may be adjusted. The pedal is easily attached and is nickel-plated.

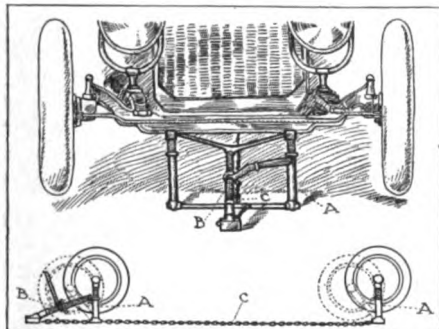
Ten Guards

Page 5

FOUR-WHEEL CAR JACK

Reading Automobile Co., 126 North Fifth street, Reading, Pa. PRICE, \$20; DEALERS, \$12; JOBBERS, \$10.

A jack which permits jacking up all four wheels of a car. It consists of a pair of steel frames, one for the front and the other for the rear axle; each frame carries two adjustable heads to pick up



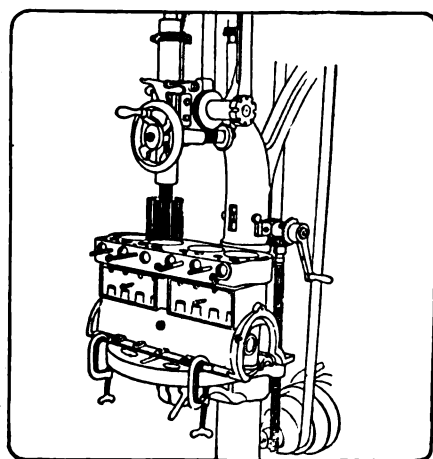
Four-wheel car jack

the axle. The frames are connected by a heavy steel chain, and one of the frames is connected with a screw jack by a short chain. The car is run over the jack, the heads placed in position against the axles and the screw operated, which raises the whole car and holds it steadily. The length of the chain and the height of the lifting heads are adjusted to suit any car. The makers state that it is safe to run the motor and do any other work on the car with the jack under it. The weight of the jack is 65 pounds and the safe maximum load is given as 6,000 pounds.

REAMERS FOR FORDS

Stevens & Co., New York. PRICE, duplex \$2, cylinder reamer \$16.

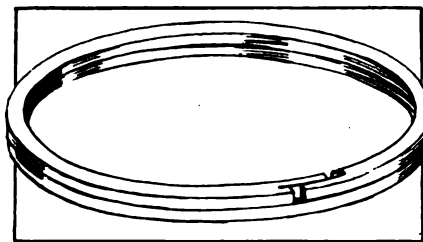
Several kinds of reamers are made: a duplex for fitting the spindle body and



Reamer for Fords

spindle arm bushings; plain and expanding reamers and a cylinder reamer. The duplex is made with twisted and straight flutes, the former being especially for split bushings. The duplex has two diameters, .564 and .506 inches. Plain and expanding reamers for Ford bush-

ings of all sizes are manufactured and the expanding types are ground .005 undersize for use with worn or finished parts. They may be brought to .005 oversize. The cylinder reamer allows the reboring of Ford cylinders and the

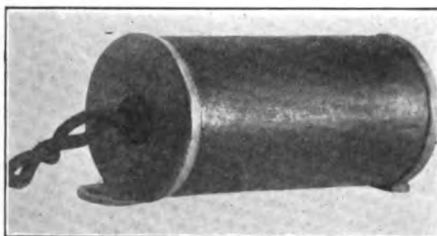


B-W piston ring

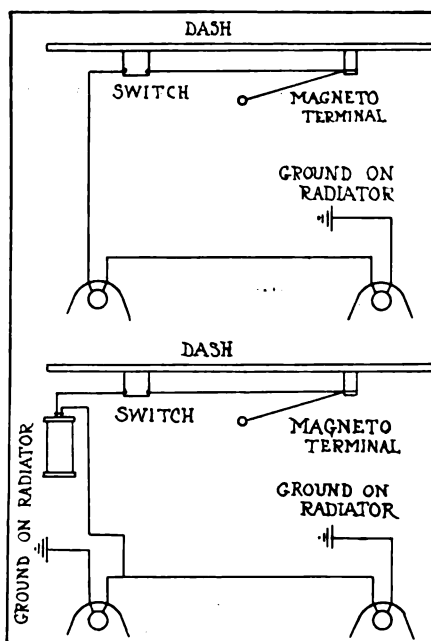
fitting of oversize pistons. It is constructed with inserted blades of high-speed steel and the cutting angle and clearance is proportioned so that little power is required. It comes equipped with a No. 4 Morse taper shank and can be used in an ordinary drill press which is geared down to run at 30 r. p. m. It is said that a cylinder may be finished in 15 minutes and that the reamer may be reground at slight cost. Any special size body or shank is supplied to order.

EVENLITE FOR FORD CARS

St. Louis Electrical Works, St. Louis,



Evenlite coil for Fords



Wiring diagram for connecting Evenlite to Ford wiring; upper, standard model; lower, 1915 model

Mo. PRICE, with lamps, \$3.50; without lamps, \$3.

The purpose of this device is to supply a uniform light at all speeds. It is claimed that with this device attached the Ford magneto will supply a uniform current to the headlight bulbs regardless of motor speed. It consists of a small coil which is placed in series with the wire leading from the switch to the lamps.

B-W PISTON RING

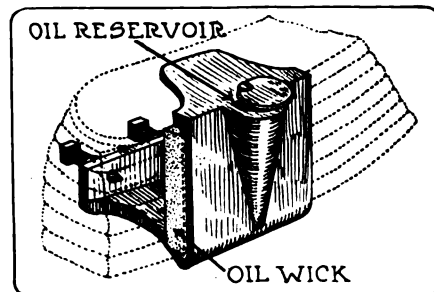
Ballman-Whitten Mfg. Co., 5407 Easton avenue, St. Louis, Mo.

In this device two eccentric rings are pinned so that their joints are opposite, that is, the thick section in one ring is over the joint in the other. The leakage at the joints is prevented by the scarfing of the ends. The material is soft so that it will not wear the cylinder, yet springy, it is said. The rings are finished by tool and the surfaces are not ground.

MOSCO SPRING LEAF OILER

Motor Specialties Co., Waltham, Mass. PRICE, \$2 per set of four. DEALERS, \$1.50.

The Mosco is only for Ford cars and



Mosco spring leaf oiler

consists of a reservoir which is formed between the clamp and the side of the spring, felt washers being used to prevent the leakage of oil at the point. Two set screws hold the device securely in place.

HOLOPHANE HEAVY REFLECTOR

Holophane Works, General Electric Co., Cleveland. PRICE, \$4.

A heavy reflector made of metal and designed especially for outdoor work. All surfaces are heavily porcelain enameled, white inside and green outside, with the exception of a copper nut at the top. The nut is tapped for 1/2-inch pipe connection and is locked to the reflector by a bearing of ample surface. The lower edge of the reflector is rolled to shed water easily. Among other uses these reflectors have been used in garages for lighting washing stands. By using four lights around a car an excellent illumination is obtained. For such work the angle type is suitable. It is 12 1/4 inches in diameter and 14 1/2 inches deep and a good lamp for use with it is a 200-watt Mazda lamp.

Demountable Rim Tangle at Length Is Unsnarled

**Decision Given Perlman and Standard
Welding Enjoined from Making
Rims Alleged to Infringe
His Patent**

NEW YORK, August 19—Judge Hunt yesterday handed down a decision in favor of Louis Perlman in his suit against the Standard Welding Co., charging infringements of claims 8, 11, 12 and 13 of patent No. 1,052,270, covering demountable rim construction. The court issued an injunction restraining the Standard Welding Co. from making or selling rims alleged to infringe Perlman's patent and ordered an accounting of the concern's profits therefrom.

The patent No. 1,052,270 involved in the suit, which was filed October 7, 1913, in the United States district court for the Southern district of New York, was issued to Perlman on an application filed June 29, 1906, which was a continuation of and substitute for an application filed May 21, 1906.

According to the opinion, Perlman's contention was that each of his locking elements consists of a wedge acting against an inclined space of a demountable rim and driven by a power element which anchors the wedge to the wheel; that the fact that the inclined space is that of a conical opening is merely an incident not altering the dual action of the locking element; that the wedge is the tapered end of a bolt, and the bolt itself the power means; that the locking means consists of a series of wedges and that the bolts which carry the wedges are the actuators; that each bolt in the Standard Welding Co.'s device is threaded through the wood felly and fixed rim and has a movable rim which actuates the wedge and that there is but a reversal of parts with the same functions attained in the same way as with the movable bolt in a fixed nut actuating a wedge; that the immediate actuator of the wedge in the Standard Welding device is a nut threaded on the bolt and that there is no substantial distinction between moving a wedge by threading a bolt through a stationary nut, as in the Perlman device, and moving a wedge by threading a nut along a stationary bolt, as in the Standard Welding construction.

The Standard Welding Co. contended that in 1906 and 1907 with other manufacturers of automobile wheels and rims in this country, it began to make what is known as "the Old Style Continental Demountable Rim," the characteristic features of which are substantially those of the exhibit introduced by Perlman as the Standard Welding Co. wheel. The company also stated that the construction of this wheel was an adaptation of one previously produced commercially in Europe and particularly in France, where it was known as the Vinet demountable wheel. The Standard Welding Wheel has ordinary spokes and wood felly and a fixed metal felly band with an upturned flange on the inner side. There is an opening in the felly and band to receive the tire valve stem. The clincher demountable rim has a block fitting between two plates on the band so that they will not creep. The demountable rim has a series of holes for nuts, for short-stem lugs and also with a valve stem hole. There are eight locking devices, these consisting of a bolt and a metal wedge, the bolts passing axially through the wood felly and each having a head on its inner end so shaped as to prevent its rotation. There is a nut on the outside end of each bolt. The wedges go between the demountable rim and the fixed rim and exert an inclined pressure upon the demountable rim radially away from the wheel body, spacing it from the fixed rim, and also press it laterally against the flange at the other end of the fixed rim. The wedges are propelled by threaded bolts, the immediate actuators being a nut threaded on a bolt.

The court ruled that, "The same result is accomplished in both devices; a demountable rim is supported on a small amount of surface and is capable of ready application and removal, and yet it is firmly locked on the fixed rim while in use."

King Outing Damp But Successful

DETROIT, August 23—It takes the worst work of the weather man to bring the full modicum of cheerfulness out of

a dyed-in-the-wool member of the automobile industry.

At any rate, such might be judged from the merry party that set out from the King factory last Saturday in a down-pour of rain with a lakeside camp as their objective. It is an annual habit of the King Motor Car Co. to invite representatives of their parts makers and suppliers to meet the King organization at a weed-end gathering mainly intended for jollification, with just a little business mingled in. By 12:30 p. m., the scheduled time, well over a hundred men, outside the King crowd, had gathered at the plant, and a very happy party assembled at the camp by 4 p. m.

Baseball in a foot of water was out of the question, but the full force was turned loose to dig trenches. Plenty of tents had been erected with beds well above the water line, so the night passed in true campfire fashion and in reasonable comfort.

As to the business, President Artemus Ward, Jr., and F. A. Vollbrecht, vice-president and general manager, spoke concerning the large share the parts makers had taken in building up the King success, and Chief Engineer T. P. Chase talked about the part played by suppliers in experimenting and developing an ever-improving portion of automobile make-up. The guests replied promptly.

Driggs-Seabury Has Additional Stock

NEW YORK, August 19—In addition to the \$500,000 non-cumulative 7 per cent first preferred, \$500,000 non-cumulative 7 per cent second preferred and \$3,000,000 common stock, the Driggs-Seabury Ordnance Co. has authorized issue of \$1,500,000 first mortgage 6 per cent serial bonds. These bonds mature serially, \$300,000 each year, starting August 1, 1916, and are callable at 101 and interest. Two series, 1916 and 1917, amounting to \$600,000, have been sold at par. The remainder, \$900,000, are being offered for subscription at 97 with a 10 per cent bonus in common stock. The second preferred stock is convertible at par into common stock at any time.

A. E. Borie, of New York, who will head the company, held a conference in Sharon, Pa., last week with John Stephenson, Jr., who retains his interest in the newly organized concern, regarding the transfer of the property. Plans for big extensions at the Sharon plant will be taken up at the meeting of the directors to be held the first week of September.

Willemin Assistant General Manager

DETROIT, August 23—A. B. Willemin, who has been director of purchases for 3 years, has been promoted to the position of assistant general manager of the Hupp Motor Car Co., with headquarters at the factory.

Independents Raise Price of Gasoline in St. Louis

**After Following Standard 18 Months,
They Make Increase of 1.1 Cents—
Will Boost Price Eventually
to 15-17 Cents**

ST. LOUIS, August 21—After following the lead of the Standard Oil Co. nine times in the last eighteen months by reducing the price of gasoline 1 cent each time, independents have balked—they raised the price one and one-tenths cents this week.

The Pierce Oil Corp., which the independents had termed an ally of the Standard Oil in stories of an alleged sham battle to freeze out the small dealer, announced increases in its gasoline prices soon after the smaller independents. The Standard, however, three days after the independents' cut had not yet brought down its prices.

The price of No. 1 gasoline was raised from 12.4 to 13.5 cents per gallon; No. 2 from 10.9 to 12 cents per gallon; No. 3 from 8.9 to 10 cents per gallon. These prices are for 10 gallon lots.

The independent dealers say they expect the Standard Oil to follow their lead and that they will continue to increase the price until it is the same as before the so-called war, that is, from 15 to 17.5 cents.

No Prospect of Detroit Race

DETROIT, August 23—John B. Whelan, president of the defunct Detroit Motor Speedway, states that at the present time it is impossible to say when the race which was originally scheduled for Labor Day can be run. He still holds out hope that the speedway will be built within a reasonable time, although there is no work being done on it at the present time.

The Speedway concern is still holding the money which has been taken in for tickets for the opening race, and no action has been taken, because Mr. Whelan explains that the Speedway company desires to wait to set a later date at which the tickets will be honored, providing sufficient funds for completion of the track can be secured.

Fisher Resigns from Sheepshead

NEW YORK, August 24—Carl G. Fisher, president of the Indianapolis Motor Speedway and of the Sheepshead Bay Speedway, has resigned as head of the Sheepshead speedway, and H. S. Harkness, prominent in the early racing days, has succeeded him. Harkness will be remembered for his record drive, on July 12, 1904, up Mt. Washington, N. H., in a Mercedes, when he negotiated the 8-mile hill in 34:37½.

Attempting to Unionize Boston's Repairshops

**Labor Leaders, Working Quietly, Are
Making Determined Effort and in
Some Cases Have Succeeded
—Movement Spreading**

BOSTON, August 21—Labor officials are making a determined effort to unionize all automobile repairshops in Boston. For some time the organizers have been working quietly and they have succeeded in getting a number of places unionized. Other shops are partly so. The only demand they have made so far is for an 8-hour day.

Some of the dealers have held out, however, and they intend to keep an open shop if possible. But the labor men are working along outside lines to accomplish their ends. In the case of one big distributor who sells cars and trucks and who refused to bother with the union, the officials went to some of the big concerns that bought his trucks. One of these was a brewery, and the beer people were told they had better install their own repairshop and have it run under union conditions. This was done. Then they found a shop that was unionized and to other owners of trucks whose employes were unionized they sent word to have the repairs made at the union shop. So the service station of the dealer has been losing the repair trade on the trucks right along. This plan is being followed with other concerns.

Philadelphia Ford Men Dine

PHILADELPHIA, August 20—About 500 employes of the Ford assembly plant in this city took part in a huge dinner given at the plant on August 17 in commemoration of the first anniversary of the new structure in this city. Addresses were made by Manager Louis C. Block and City Statistician Edward J. Cattell, whom he introduced. During the year August 1, 1914, to August 1, 1915, 10,130 cars were sold, representing a year's business of \$6,000,000. Motion pictures of the Ford plant at Detroit were shown, and entertainment provided by talent from the local force.

Springfield, Mo., Has Anti-Dazzle Law

SPRINGFIELD, MO., August 20—The city council has passed an anti-dazzle ordinance with penalties of from \$1 to \$100 or jail sentence of from 5 to 60 days or both. It provides that the uppermost ray of light from a lamp must not be above 6 feet from the road at a point 100 feet or more ahead of the car. The ordinance further provides that the center ray of light from any automobile lamp shall not deviate under any circumstances from a line parallel with the cen-

ter line of the machine. The latter clause prevents the use of revolving searchlights.

ASSOCIATION NEWS

Pasadena Car Dealers Organize

PASADENA, CAL., August 21—Through the organization this week of the Pasadena Automobile Dealers Association, the prospects of this city having two shows this year have fallen through. The new organization has taken over the promotion of the show which is to be held in the Hotel Maryland in November. L. H. Kittrelle was elected president of the organization, the other officers elected being: Vice-president, A. C. Kendall; secretary-treasurer, A. M. Hawley.

Iowa Convention Scheduled Sept. 1

DES MOINES, August 23—The Iowa Retail Auto. Dealers Association will hold its convention at the Y. M. C. A. building September 1 and it is expected that upward of 1,000 dealers will attend. The convention will take up the establishment of legitimate dealers; the proper time for the announcement by makers of new models; the subject of deposits whereby any person can become a dealer; will propose a dealers' fire insurance association and agitate the passage of a mechanics and storage lien law.

New Jersey Association Show

NEWARK, N. J., August 21—The New Jersey Automobile Trade Association will stage its annual show in connection with the festivities planned to commemorate the 250th birthday of the founding of the city. It is possible that a new building will be erected for the purpose.

BOWSER DISTRICT MANAGERS CONVENE

SOUTH BEND, IND., August 23—The annual summer convention of the district sales managers of the S. F. Bowser Oil Tank & Pump Co., Fort Wayne, was held at the home office last week. The meeting was for the purpose of discussing winter sales policies, President S. F. Bowser addressing the meeting. S. B. Bechtel, general manager, presided over the meetings. Those attending were Western Manager E. F. Savercool, San Francisco; E. J. Little, Fort Wayne; B. L. Prince, Dallas; W. M. Mann, Albany; W. R. Hance, Toronto; H. C. Carpenter, Jr., New York; R. S. Colwell, Harrisburg; H. W. Brown, Atlanta; T. D. Kingsley, Chicago; G. H. Hastings, St. Louis; A. W. Dorsch, Washington, D. C.; E. J. Gallmeyer, Louisville.

Kansas City Frowns on Special Privilege Laws

**Permits Which Have Allowed Violations
of Building Ordinances No Longer
to Be Issued—Affects Curb
Pumps**

KANSAS CITY, August 20—Garage owners and dealers having sidewalk gasoline and air tanks have been disturbed by the recent decision of the city counselor that "special privilege" ordinances are invalid. It has been the custom in Kansas City for several years for builders who wished to erect structures contrary to the building code and other ordinances to secure the right to do as they please through "special privilege" ordinances. Some of these measures frankly grant permission to violate ordinances.

The board of public works has instructed its building superintendent to issue no permits resulting from such ordinances. The right to install gasoline tanks, air lines, etc., in the sidewalk space, and the right to build garages in certain locations, is secured by special ordinance. But such measures are usually different from the special privilege ordinance and will not be affected.

The city owns the sidewalk, parking and curb, and nobody can enter or use it without the city's permission—hence the necessity for ordinances granting the right to install gasoline tanks at the curb.

Hyatt Building Nears Completion

DETROIT, August 23—Excavating is well under way for the new office building of the Hyatt Roller Bearing Co., at Cass avenue and West Grand boulevard. The modern building will be the home of the sales and engineering departments of the automobile division of the company. It is to be three stories high and its exterior will be of rough red brick with fine stone trimmings and cornices, a pleasing contrast. The finish throughout the building will be quarter-sawed oak. The offices on each floor will be separated by clear glass partitions above the wainscoting, which makes possible a general view of all the offices.

Bosch Magnetos on Two More Cars

NEW YORK, August 24—The Bosch Magneto Co. has just closed contracts with the Austin Automobile Co., Grand Rapids, Mich., and the Mercer Automobile Co., Trenton, N. J., for Bosch equipment for the next season.

Gasoline Advance in Eastern States

NEW YORK, August 23—Within the past week there has been a general advance of 1 cent a gallon in gasoline prices throughout New York state, New Jer-

sey, New England, eastern Pennsylvania and Delaware. The big companies are now selling gasoline wholesale in New York at 14 cents a gallon, compared with 11 cents in the early summer. The companies affected by these changes are Standard Oil of New York, Standard Oil of New Jersey and Atlantic Refining Co. The Texas Co. and Gulf Refining Co. are quoting prices similar to the Standard.

The independent oil companies in the St. Louis district have advanced the price of gasoline 1.1 cents a gallon to 13½ cents for the best grades. Further advances are expected.

Gasoline Must Be Labeled in Georgia

SAVANNAH, GA., August 23—Hereafter all dealers, garagemen and others selling gasoline in the State of Georgia must display by label, sign or otherwise the specific gravity of the fuel. W. C. Bryant, oil inspector in the State Department of Agriculture, has served notice that dealers failing to comply with the ruling will be prosecuted. The law is intended to prevent the sale of inferior fuel at prices that are too high and apply to the better grades.

Two New Wisconsin Motors

Two new four-cylinder motors of the L-head block type have been brought out by the Wisconsin Motor Mfg. Co., Milwaukee. Both are intended for heavy work. The cylinder dimensions are 4 x 6 inches and 4¼ x 6 inches; the small difference in size makes it possible to use many parts interchangeably, for example, the same crankcase is used on both motors.

Provision is made for the installation of two-unit starting and lighting equipment. Four bearings carry the crankshaft. The bearing material throughout the motor is bronze, babbitt lined. The crankshaft is 2 inches diameter and connecting rod bearings are 3 inches long.

Oiling is accomplished through a circulating pressure system by an oil pump in the crankcase bottom. This pump, by the way, is easily removed with the oil strainer without disturbing any other parts. There is an oil indicator to show the quantity. Distribution of oil to the connecting rods is through the two center main bearings and crankshaft.

New Denver Hupmobile Distributer

DENVER, August 20—The Hupp Motor Sales Co., a \$60,000 corporation, has been organized by W. R. Wood, P. E. Chamberlain and F. E. Simonton, to distribute the Hupmobile in Colorado and adjacent Rocky Mountain territory. They have opened temporary quarters at 220 16th street and are erecting a new building at 1260 Broadway. The firm has also secured the agency for the Locomobile, which has not been represented in this territory for about three years.

Truck Clearing House Is Established by Brooks

Under Original Plan Will File Catalogs of Makers Having No Metropolitan Dealer and Arrange for Deliveries

NEW YORK, August 23—Emerson Brooks, formerly vice-president of J. M. Quinby & Co., Newark, N. J., and more recently engaged in the motor truck field, has evolved an original plan of operation which should be of value to the industry. In addition to the regular representation of one truck company, he has adapted his office at 250 West 54th street to act as a sort of clearing house for companies which have no metropolitan agents, making it possible for out-of-town concerns to arrange deliveries through his office and to have their catalogs on file there. Tabulated statistics of 370 makes of motor trucks were printed in the January numbers of the trade journals, many of them not represented in New York, and this new arrangement should prove a convenience to their makers as well as a source of profit. Brooks is well known in the automobile industry, having served two terms as vice-president of the Motor Truck Club and one year as treasurer of the Automobile Club of America.

Abbott Creditors Get 34% More

DETROIT, August 20—Creditors of the Abbott Motor Car Co. have just received a dividend of 34 per cent from the Security Trust Co., trustee, bringing the total distributed to 90 per cent; an-

other 10 per cent is to be distributed. This was brought about by the Abbott company giving a mortgage in favor of its creditors.

New York Distributer for Ross Eight

DETROIT, August 20—The Ross Automobile Co. has completed an arrangement with the Ross Motor Sales Co., which has been organized in New York by Thomas P. C. Forbes, Melvin Kerr and George S. Patterson, whereby the entire product of the manufacturer for a period of three years will be distributed by the sales company.

Riker and Coffin on Naval Committee

NEW YORK, August 20—A. L. Riker, vice-president of the Locomobile Co. of America, and Howard Coffin, vice-president of the Hudson Motor Car Co., have been selected to represent the Society of Automobile Engineers on the Naval Advisory Committee.

Two New Pacific Coast Dealers

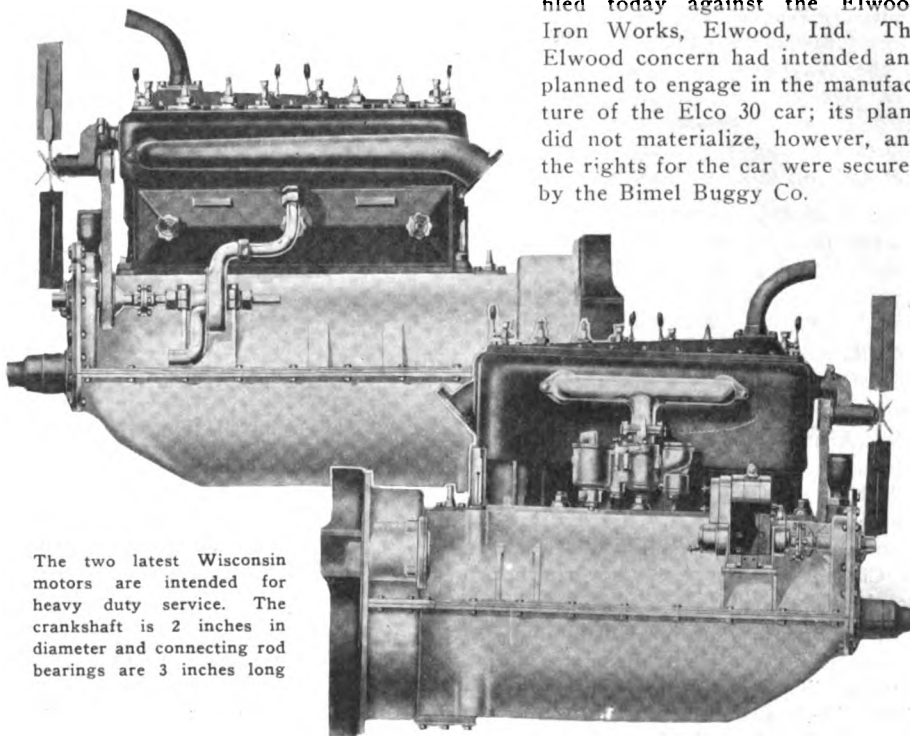
SAN FRANCISCO, August 23—The H. B. Rector Co. has been appointed distributor by the Nordyke & Marmon Co., Indianapolis, for San Francisco and northern California. The Parker Motor Car Co., Seattle, has been made distributor for the State of Washington.

Gilmore Gets Dodge in Worcester

WORCESTER, MASS., August 23—The E. A. Gilmore Co., Boston, has been appointed dealer by Dodge Bros., Detroit, for this city.

Elwood Iron Works Meets Trouble

INDIANAPOLIS, August 20—An involuntary petition in bankruptcy was filed today against the Elwood Iron Works, Elwood, Ind. The Elwood concern had intended and planned to engage in the manufacture of the Elco 30 car; its plans did not materialize, however, and the rights for the car were secured by the Bimel Buggy Co.



The two latest Wisconsin motors are intended for heavy duty service. The crankshaft is 2 inches in diameter and connecting rod bearings are 3 inches long

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

A. O. Schrieber, who has been connected with the Saxon Motor Co. for the past year in the capacity of district representative for the State of Ohio, has resigned to assume the management of the Loveland Co., 17th and Euclid avenues, Cleveland, Saxon dealer.

S. A. McGonigal has been promoted to office manager for the Studebaker Corp., Detroit.

L. H. Rose, formerly district and coast representative for the Studebaker, Maxwell and Lozier factories, has recently re-entered the trade, taking charge of the northern California distributing agency for the Chalmers, with headquarters in San Francisco.

P. D. Stubbs, formerly assistant sales manager of the Hudson Motor Car Co. and more recently Pacific Coast district sales manager for that concern, has purchased an interest in the Northwest Motor Co., distributor of Hudson and Packard in western Washington.

H. T. Woolson has been appointed engineer of the commercial vehicle department of the Packard Motor Car Co., Detroit. He was formerly the engineer of the Gas Engine & Power Co., Morris Heights, N. J.

S. E. Barnwell, formerly sales manager of the truck department of the Kentucky Wagon Mfg. Co., has been appointed manager of the Louisville office of the Waverley Co., 206 East Broadway. He succeeds K. A. Ridenor, who resigned several weeks ago to become assistant to Roy Potts, vice-president of the Madison Motors Co., Anderson, Ind.

H. C. Stotts, formerly sales manager for the Des Moines Lexington Co., has resigned to become a territorial representative for the Capitol City Carriage Co., Jackson and Allen dealer.

C. K. Albertson has been made manager of retail sales for the Pittsburgh Apperson Co.

W. Austin Crockett has been named sales manager for the Hardman Tire & Rubber Co., Belleville, N. J. Crockett has been in charge of the Baltimore branch, which hereafter will be in charge of Charles B. Brooks, who has been Crockett's assistant.

E. V. Spencer has been promoted to the position of assistant manager of the Kansas City branch of the Studebaker Corp. He has been conducting the sales promotion work at the factory.

T. C. P. Forbes, who has been sales manager of the Monarch Motor Car Co., has resigned.

Hoover Holton, connected with the sales department of the Briggs-Detroit Co. and prior to that sales manager of the Monarch Car Co., has taken the position of general sales manager of the Farmack Motor Car Corp., Chicago.

Reide Romig has been elected general sales manager for the Kearns Motor Truck Co., Beavertown, Pa.

H. W. Conrad, formerly sales manager of the Pullman Motor Car Co., York, Pa., has been appointed sales manager of the Sphinx Motor Car Co., York.

Pope Plant Buyers Incorporate

BOSTON, August 20—A certificate of incorporation has been issued to the owners of the Pope plant at Westfield, who recently bought the property at public auction for \$725,000. The new company will be styled Westfield Mfg. Co., and will make motor cars. The capital is \$1,200,000. The petitioners for the charter are Richard Mortimer, Jr., W. B. Cook, J. B. Donovan and Richard Gregg, all of New York. It is understood these men are representatives of the real owners. The time for completion of the purchase of the Pope plant has been extended 30 days to September 16 by Judge Aldrich of the U. S. District Court. New York interests, headed by E. Preston Courson, were to have paid \$700,000 on August 18.

Overland May Show Gain of \$3,000,000

TOLEDO, August 23—It is expected that earnings of the Willys-Overland Co. for the fiscal year ending June 30 will show a gain of nearly \$3,000,000, or 55 per cent over the \$5,231,274 earned during the 1914 session. That would mean 35 to 38 per cent on the common.

Yuster Axle Changed to Columbia; Yuster Retires

Torbensen Gear & Axle Co. Moves to Cleveland and Both Products Will Be Made in One Plant—Identities Separate

CLEVELAND, O., August 22—The name of the Yuster Axle Co. has been changed to Columbia Axle Co. The business is to be carried on as heretofore, but a change of trade name has been thought advisable owing to the withdrawal of M. L. Yuster from the company and for the reason that arrangements have been made with the Torbensen Gear & Axle Co., Newark, N. J., whereby that company has recently moved its entire plant, machinery, equipment and inventories to the Cleveland factory of the Columbia company.

Hereafter the combined product of both companies will be manufactured under one management and overhead expenses in the same shop. It is believed that this step will add strength and materially improve the facilities of both companies, whose separate identities are to be maintained. Consideration is now being given to plans for a new building and new machinery is being purchased to take care of increased business of the company. It is likely a new building will be erected.

Detroit Body Creditors Meet Aug. 27

DETROIT, August 20—Creditors of the bankrupt Detroit Body Co. will meet August 27 to take action on the petition of the Security Trust Co., trustee, to consider certain offers of settlement made by two concerns which are creditors of the Detroit Body Co.

Dealer Factory Visitors of the Week

FRANKLIN AUTOMOBILE CO.

C. W. Shaffer.....Carthage, N. Y.
C. G. Heck.....Albany, N. Y.
W. W. Garabrant.....Utica, N. Y.
James A. Farrell.....Cortland, N. Y.
A. M. Jones, Beckman & Jones.....Norwich, N. Y.
Wm. Van Sleet.....North Adams, Mass.
B. J. Bristol.....Glens Falls, N. Y.
Fred M. Jones.....Elmira, N. Y.
W. W. McCarroll.....Geneva, N. Y.

DETROIT MOTOR CAR CO.

T. F. Foster.....Oklahoma City

WESTCOTT MOTOR CAR CO.

Paul K. Shirk, Westcott A. S. Co.....Louisville, O.
H. J. Kagey, Westcott A. S. Co.....Louisville, O.
L. W. Fisher, Westcott M. S. Co.....Columbus, O.
Stanley N. Hayes, Hayes A. Co.....Johnstown, Pa.
C. H. Mauk, Universal M. C. Co.....Harrisburg, Pa.
W. F. Tedder, Westcott S. Co.....Akron, O.
Edw. V. Oahler.....Milwaukee

CHALMERS MOTOR CO.

H. E. Lucia.....Green Bay, Wis.
John N. Pfeiffer.....Kenton, O.

SAXON MOTOR CO.

Mr. Drummond.....Chillicothe
Mr. Seifert, Bachrach Garage.....Philippine Islands
Andre J. H. Ceuvorst.....Amsterdam, Holland

Frank Palmer.....Battle Creek, Mich.
"Doc" Payne, Payne Motor Co.....Des Moines

ROSS & YOUNG MACH. CO.

W. J. Dabney.....Atlanta, Ga.

CONSOLIDATED CAR CO.

Geo. W. Carroll.....Columbus, O.
H. U. Baker.....Lone Tree, Ia.
Brent Neal.....Chicago

PACKARD MOTOR CAR CO.

R. G. Wright, The Motormart.....Youngstown, O.
Emil Buck, Buck M. C. Co.....Davenport, Ia.
A. L. Alexander, Central A. & S. Co., Waterloo, Ia.
R. C. Lemm, MacFarland A. Co.....Denver
W. C. Matthews, Luttrell Co.....Norfolk, Va.
F. E. Parker, Packard M. Car Co. of Chicago
F. C. King, Auto Distributors Co., Logansport, Ind.

M. W. Rudd, Luttrell Co.....Richmond, Va.
C. M. Chase, Mandery M. C. Co.....Rochester, N. Y.

HERFF-BROOKS CORPORATION

G. L. Brandeis.....Chicago
Frank H. Fowler.....De Pue, Ill.
Thurman Lisle.....Lithopolis, O.
Chas. F. Andrews.....Villa Grove, Ill.
Wm. R. Quimby.....Somerville, N. J.
C. E. Culver.....Mt. Union, Pa.

Many Companies Rushing Additions to Factories

Cleveland, Detroit, Pittsburgh, Syracuse and Trenton All to Have New Buildings — Production is Trailing Demand

CLEVELAND, August 20 — The Standard Welding Co. is rushing the construction of several immense additions to its plant. The first addition, practically completed, is a brick building 100 x 200 feet. This is to be devoted entirely to the manufacture of bent tube parts. The second addition is to be of the mushroom reinforced concrete type. It will be built in the form of an L. One leg will extend 200 feet north and south on West 73rd street, the other leg 240 feet east and west from West 73rd to West 74th street. The 73rd street section will be five stories high. The fifth story will be finished for general offices, recreation and dining rooms. At a later date two more additions will be built parallel to the 73rd street section and connecting with the main building.

Studebaker's Enameling Nearly Ready

DETROIT, August 20—The Studebaker Corp. is soon to occupy its new building being erected for the enameling and stamping departments. This is four stories, 320 feet long by 70 feet wide. The most modern type of quantity enameling apparatus is being installed. Air in the enameling room is to be washed and the walls are to be specially prepared to catch any dust or dirt in the air. A large bank of enameling ovens will take care of the drying of the dipped metal parts.

Hyatt Erecting Another Building

DETROIT, August 22—In addition to the new office building of the Hyatt Roller Bearing Co., there is a new factory building in course of construction. This will have six floors 260 feet by 60 feet and there will also be a full basement of the same area. It is stated that the whole of this new building when finished will be given over to the heat treating department. Reinforced concrete and brick are the materials being used.

Duff Manufacturing Increases Facilities

PITTSBURGH, August 20—The Duff Mfg. Co. is building an extension to its main factory building, 150 x 120 feet. With the extension the main building will be 625 x 125 feet.

Monarch Plant To New Process Gear

SYRACUSE, N. Y., August 20—The New Process Gear Corp. will acquire ownership of the Monarch typewriter

plant, Syracuse, October 1, and after alterations the Monarch plant will be used by the New Process Gear Corp. as the job gear and spur and transmission department and the present plant will be devoted exclusively to the manufacture of differential gears for automobiles.

Mercer Increasing Floor Space

TRENTON, N. J., August 23—The Mercer Co. is adding a 60 x 400-foot building to its plant, giving 24,000 additional feet of floor space. It will house the paint and assembly departments.

600 x 80-Foot Addition For Dodge

DETROIT, August 20—Dodge Bros. are having prepared plans for a large addition. The structure will be in conformity with the other modern concrete and glass buildings of the Dodge group, and will be about 600 feet long by 80 feet wide and the height will be six stories.

Twin City Entry List Filling

MINNEAPOLIS, August 20—With the Twin City speedway practically completed, interest in the preliminary trials, August 28, 30 and 31, is aroused. A nominal fee is to be charged spectators. A circuit of the two-mile concrete track at a speed of 80 m. p. h. is necessary for entry in the 500-mile World's race September 4. The request that the race begin at 1 p. m. instead of 10 a. m. for the benefit of tradespeople and office clerks is being considered. Entries to August 21 were:

Driver	Car
Tom Alley.....	Ogren
O. F. Haibe.....	Sebring
Ed O'Donnell.....	Duesenberg
Pete Henderson.....	Duesenberg
Billy Chandler.....	Duesenberg
Earl Cooper.....	Stutz
Gil Anderson.....	Stutz
D. Resta.....	Peugeot
Ralph Mulford.....	Peugeot
Robert Burman.....	Peugeot
John Aitkin.....	Peugeot
Howard Wilcox.....	Peugeot
Barney Oldfield.....	Delage
W. W. Brown.....	Du Chesneau
De Palma.....	Mercedes

Schedule Corona Race For Nov. 20

CORONA, CAL., August 21—The 1915 Corona road race is assured. At the final mass meeting held here last Monday night it was decided to hold the race. The stock to guarantee the purse was all subscribed and the association to handle the event was formed. The Circus Belt Racing Association is to be the name of the corporation promoting the 300-mile race November 20. George R. Bentel, of Los Angeles, was present representing the Mercer factory and stated that there would be three Mercers in the race. After making formal entry, Bentel stated that Eddie Pullen, winner of the race last year, would be up on one of the Mercers.

Paterson Six at \$985 Is Mate to Four Continued

New Model Has Continental 3¼ x 5½ Motor and Carries Seven Passengers—Wheelbase 117 Inches and Tires 32 x 4

Two cars, one a brand new six and the other the four continued without change, constitute the 1916 offering of the W. A. Paterson Co., Flint, Mich. The new six sells for \$985 and has Continental motor 3¼ x 5½, 117-inch wheelbase, 32 x 4 tires, and unusually complete equipment. A feature of the six is that operation has been made uncommonly easy by the careful proportioning of levers. The clutch pedal and gear-shifting lever can be moved with but little exertion, making gearshifting in hilly country less fatiguing than usual, and the brakes are applied with equal ease. The body is built to carry seven passengers.

New Garford 1-Ton Truck, \$1,450

A brand new 1-ton truck with worm drive, priced at \$1,450, has been brought out by the Garford Motor Truck Co., Lima, O. The machine is of the conventional type with the motor under the hood forward of the driver's seat, and bears a strong resemblance to the 1½-ton model which was brought out a few months ago. The L-head block motor has cylinders 3½ x 5½, giving a S. A. E. rating of 19.6. Ignition is by high-tension magneto; the carbureter is set very close to the ports. A dry disk clutch, three-speed gearset, pneumatic front tires 34 x 4½, and solid rear tires 36 x 4, are used.

Kearns Adds Two New Trucks

Two cars designed especially for rapid light delivery service, having carrying capacities of 500 and 1,000 pounds, and selling for \$475 and \$785 including bodies, replace the high-wheeled friction-driven 1,500-pound cars formerly manufactured by the Kearns Motor Truck Co., Beavertown, Pa. The new models are of conventional construction and are finished and equipped as are passenger cars, having windshields, tapered hoods, nicked trimmings, electric lighting and starting. The motors have four cylinders, 2¾ x 4 and 3¼ x 5, respectively.

Ford Profit Checks Going Out

DETROIT, August 23—These days the Ford Motor Co. is paying out money on the same enormous scale as it makes cars. Ten thousand of the profit sharing checks are being mailed daily to all parts of the country. At this rate the distribution of more than 300,000 checks to buyers under last season's refund agreement will be completed within 30 days.

SPECIFICATIONS OF LEADING AMERICAN CARS BROUGHT UP TO DATE

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
DORRIS	6-4 x5	38.4	Walth	Stmbug	Walth	Disk	3	128	36x4½	.....	.....	2.475
DORT	4-3 x4	14.4	Conn	.....	Aplico	Cone	3	92	30x3	540	.....	.....
...	4-3½x5	16.9	Conn	.....	Aplico	Cone	3	105	30x3½	.....	650	.....
EMPIRE	4-3½x5	24	Conn	Shblr	.....	Cone	3	112	33x4	.....	895	.....
...	6-3 x5	21.6	Conn	Shblr	A-Lite	Cone	3	120	34x4	.....	1,095	.....
ENGER	6-3½x5	29.4	A. Kent	Rafld	G & D	Disk	3	125	34x4	1,485	.....	1,495
6-50	12-2½x3½	33	.....	.....	.....	.....	.....	115	32x4	.....	1,085	.....
FIAT	4-130x170	42.2	Bosch	Own	Walth	Disk	4	128	36x4½	4,650	4,650	4,650
55	6-110x150	44.0	Bosch	Own	Walth	Disk	4	137	37x5F	5,150	5,150	5,150
6-50	4-110x150	29.5	Bosch	Own	Walth	Disk	4	124	36x4½	4,150	4,150	4,150
FORD	4-3½x4	22.5	Ford	Holley	.....	Disk	2	100	20x3	390	440	.....
'T'	4-3½x4	22.5	Ford	Holley	.....	Disk	2	100	20x3	390	440	.....
FRANKLIN	6-3½x4	31.5	Eisner	Own	Dyneto	Disk	3	130	31x4½	1,950	1,950	.....
6-30	6-3½x4	31.5	Eisner	Own	Dyneto	Disk	3	130	31x4½	1,950	1,950	.....
F. R. P.	4-4 3-5x6½	33.8	Bosch	Stwrt	Bosch	Cone	4	110	36x4	All bodies to order		
45-B	4-4 3-5x6½	33.8	Bosch	Stwrt	Bosch	Cone	4	110	36x4	All bodies to order		
GLIDE	4-3½x5	19.6	Walth	Shblr	Walth	Disk	3	111	32x4	1,195	1,195	.....
30	4-3½x5	19.6	Walth	Shblr	Walth	Disk	3	111	32x4	1,195	1,195	.....
GRANT	4-37x4	13.3	Swiss	Mayer	A-C	Cone	2	90	28x3	425	.....	.....
M	6-3 x4½	21.6	A. Kent	Rafld	A-C	Cone	3	104	30x3½	.....	795	.....
TT	6-3 x4½	21.6	A. Kent	Rafld	A-C	Cone	3	104	30x3½	.....	795	.....
GREAT WESTERN	9-3 x5	21.6	Remy	.....	W. Land	Disk	3	...	33x4	.....	1,185	.....
1916	9-3 x5	21.6	Remy	.....	W. Land	Disk	3	...	33x4	.....	1,185	.....
H. A. L.	12-3 x4½	43.2	.....	.....	.....	Disk	3	130	34x4	1,750	1,750	.....
H.A.L.	12-3 x4½	43.2	.....	.....	.....	Disk	3	130	34x4	1,750	1,750	.....
HALLADAY	6-40	6-	.....	Walth	Stmbug	Walth	Disk	3	...	34x4	.....	1,385
6-40	6-	.....	.....	Walth	Stmbug	Walth	Disk	3	...	34x4	.....	1,385
HAYNES	6-3½x5	29.4	Own	Rafld	L-N	Disk	3	121	34x4	*1,485	1,385	.....
34	6-3½x5	29.4	Own	Rafld	L-N	Disk	3	121	34x4	*1,485	1,385	.....
35	6-3½x5	29.4	Own	Rafld	L-N	Disk	3	127	35x4½	.....	.....	1,485
										*Three-passenger		
HERF-FRANKS	4-4½x5	32.4	Spldfr	Shblr	Aplico	Cone	3	118	34x4	.....	885	.....
4-35	4-4½x5	32.4	Spldfr	Shblr	Aplico	Cone	3	118	34x4	.....	885	.....
6-50	6-4 x4½	38.4	Spldfr	Shblr	Aplico	Cone	3	124	34x4	.....	1,095	.....
HOLLIER	8-3 x4½	28.8	A. Kent	Stmbug	Apple	Cone	3	112	33x3½	.....	985	.....
...	8-3 x4½	28.8	A. Kent	Stmbug	Apple	Cone	3	112	33x3½	.....	985	.....
HUDSON	6-3½x5	29.4	Deleo	Zenith	Deleo	Disk	3	123½	34x4	1,550	.....	1,550
6-40	6-3½x5	29.4	Deleo	Zenith	Deleo	Disk	3	123½	34x4	1,550	.....	1,550
6-54	6-4½x5½	40.8	Deleo	Zenith	Deleo	Disk	4	135	36x4½	.....	.....	2,350
HUPMOBILE	4-3½x5½	22.5	.....	Zenith	BiJur	Disk	3	119 134	34x4	1,085	1,085	1,225
...	4-3½x5½	22.5	.....	Zenith	BiJur	Disk	3	119 134	34x4	1,085	1,085	1,225
IMPERIAL	4-3½x5	22.5	Walth	Stmbug	Walth	Disk	3	115	33x4	.....	995	.....
56	6-3½x5½	33.7	Spldfr	Stmbug	N E	Disk	3	130	36x4½	.....	.....	2,200
66	6-3 x5	21.6	.....	.....	.....	Disk	3	...	33x4	.....	1,285	.....
INTER-STATE	4-3½x5	19.6	Remy	Shblr	Remy	Cone	3	110	33x4	.....	1,000	.....
T	4-3½x5	19.6	Remy	Shblr	Remy	Cone	3	110	33x4	.....	1,000	.....
JACKSON	4-3½x5	19.6	A-Lite	Shblr	A-Lite	Cone	3	117	32x4	.....	985	.....
...	4-3½x5	19.6	A-Lite	Shblr	A-Lite	Cone	3	117	32x4	.....	985	.....
...	8-27x14½	26.4	.....	.....	A-Lite	Cone	3	...	32x4	.....	1,195	.....
...	8-3½x4	30.2	.....	.....	A-Lite	Cone	3	...	34x4	.....	.....	1,685
JEFFERY	4-3½x5½	22.5	Bosch	Rafld	BiJur	Plate	3	116	34x4	.....	1,000	1,037
Four	4-3½x5½	22.5	Bosch	Rafld	BiJur	Plate	3	116	34x4	.....	1,000	1,037
Six	4-4½x5½	33.7	Bosch	Stmbug	U S L	Disk	4	133½	34x4½	.....	.....	2,400
Chfld	6-3 x5	21.6	Bosch	Stmbug	BiJur	Disk	4	122	34x4	1,350	1,350	.....
KING	4-3 15-16x5	24.7	A. Kent	Stmbug	W. Land	Disk	3	113	33x4	1,075	1,075	.....
...	8-2½x5	24.1	A. Kent	Zenith	W. Land	Disk	3	113	33x4	.....	1,250	.....
KISSEL	4-3½x5½	24	Walth	Stmbug	Own	Cone	3	115	32x4	.....	1,050	.....
4-32	4-3½x5½	24	Walth	Stmbug	Own	Cone	3	115	32x4	.....	1,050	.....
4-36	4-4½x5½	29.0	Walth	Stmbug	Own	Cone	3	121	34x4	.....	1,250	.....
6-42	6-3½x5½	31.5	Walth	Stmbug	Kissel	Cone	3	126	34x4	1,485	1,485	1,485

NOTE—The figures given in columns underneath 2-, 5- and 7-passenger, represent the list catalog prices of the models. Where a tire size is given, as for instance "375/54," it means that the rear tires are 375/54 and the front are of smaller dimension.

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
KLINE												
6-42	6-3½x5½	29.4	Walth	Rafid	Walth	Disk	3 123	34x4	1,750	1,750	....	....
6-42-A	6-3½x5½	29.4	Walth	Rafid	Walth	Disk	3 127	35x4½	....	....	1,850	....
KRIT												
M	4-3½x4	22.5	Disco	Johnson	Disco	Disk	3 108	32x3½	850	850	....	....
M	4-3½x4	22.5	Bosch	Stmbg	N E	Disk	3 108	32x3½	965	965	....	....
LAMBERT												
48-C	4-3½x4	22.5	Briggs	Shblr	Briggs	Frn Trs	112	32x3½	....	1,200	....	....
68-C	4-4½x5½	27.2	Briggs	Shblr	Briggs	Frn Trs	117	34x3½	1,565	1,565	....	....
LEWIS												
VI	6-3½x6	25.4	Remy	Stmbg	Remy	Disk	3 135	34x4	1,390	....	1,390	....
LEXINGTON												
Four	4-3½x5½	24.2	Walth	Shblr	Walth	Disk	3 115	34x4	1,375	1,375	....	....
6-L	6-3½x5	29.4	Walth	Shblr	Walth	Disk	3 128	34x4	1,875	1,875	....	....
6-M	6-4½x5	40.8	A. Kent	Stmbg	Jesco	Cone	3 130	36x4½	2,575	2,575	2,675	....
LOCOMOBILE												
M-5	6-4½x5½	48.6	Bosch	Own	Walth	Disk	4 140	37x5	5,100	....	5,100	....
M-5	6-4½x5	43.5	Bosch	Own	Walth	Disk	4 132	37x5	4,400	4,400	....	....
MADISON												
...	6-3 x5	21.6	Remy	....	Remy	Disk	3 120	34x4	1,375	1,375	....	....
MARION												
...	8-3½x4½	31.2	Bosch	....	G & D	Disk	3 115	34x4	1,500	1,500	....	....
...	6-3 x5	21.6	Walth	Stmbg	....	Disk	3 120	33x4	....	1,250	....	....
...	4-3½x5	22.5	Bosch	Rafid	G & D	Disk	3 110	34x4	....	1,250	....	....
MARMON												
41	6-4½x5½	43.5	Bosch	Stmbg	Bosch	Cone	3 132½	36x4½	3,250	3,250	3,350	....
MAXWELL												
25	4-3½x4½	21.0	Simms	Kingstn	Simms	Cone	3 103	30x3½	655	655	....	....
McFARLAN												
T	6-4 x6	38.4	Walth	Stmbg	Walth	Cone	3 132	36x4½	2,680	2,680	2,680	....
X	6-4½x6	48.6	Walth	Stmbg	Walth	Cone	3 132	36x4½	2,990	2,990	2,990	....
MCINTYRE												
25	4-3½x5½	19.6	Bosch	Stmbg	G & D	Cone	3 106	32x3½	....	850	....	....
6-40	6-3½x4½	29.4	Briggs	Stmbg	Briggs	Disk	3 120	35x4	....	1,275	....	....
MERCER												
Spdstr	4-3½x6½	22.5	Bosch	Zenith	U S L	Disk	4 130	34x4½	2,750	....	....	....
...	4-3½x6½	22.5	Bosch	Zenith	U S L	Disk	4 130	34x4½	....	3,000	....	....
METEOR												
42	4-4 x5	25.6	A. Kent	Stmbg	Spdfr	Disk	3 114	34x4	....	1,075	....	....
45	6-3½x5	33.7	A. Kent	Stmbg	Spdfr	Disk	3 126	35x4	....	1,395	....	....
METZ												
22	4-3½x4	22.5	Bosch	Own	....	Frn Trs	96	30x3	495	....	....	....
25	4-3½x4	24.2	Bosch	A W T	G & D	Frn Trs	105	32x3½	....	600	....	....
MITCHELL												
8	8-3 x5½	28.8	....	Rafid	Walth	Cone	3 116	34x4	1,450	1,450	....	....
6 of 16	6-3½x5	29.4	....	Rafid	Walth	Cone	3 125	34x4	....	1,250	....	....
MOLINE-KNIGHT												
...	4-4 x6	25.6	Bosch	Shblr	Wagner	Cone	4 128	36x4½	2,500	2,500	2,500	....
40	4-3½x5	19.6	Conn	....	....	Cone	3 118	34x4	....	1,475	....	....
MONARCH												
Slx	6-3½x5	29.4	A. Kent	Zenith	W. Lnd	Cone	3 125	33x4	....	1,250	1,275	....
...	8-3 x5	28.8	....	....	W. Lnd	Cone	3 125	33x4	1,500	....	....	....
MONROE												
M-2	4-3 x3½	14.4	Conn	Zenith	A-Lite	Cone	3 96	30x3	460	....	....	....
MOON												
6-40	6-3½x5	29.4	Delco	Rafid	Delco	Disk	3 125	34x4	....	1,475	....	....
6-30	6-3½x4½	25.4	Delco	Rafid	Delco	Disk	3 118	34x4	....	1,195	....	....
MORSE												
D	4-4½x5	34.2	Elsmn	Stmbg	G & D	Disk	4 127	36x4½	3,600	3,600	3,600	....
NATIONAL												
...	6-3½x5½	29.4	Mgnto	....	Walth	....	3 128	34x4½	....	1,600	....	....
...	12-2½x4½	36.2	Dixie	....	Walth	Cone	3 128	36x4½	....	1,990	....	....
AB	6-3½x5½	33.7	Elsmn	Rafid	Walth	Cone	3 134	36x4½	2,375	2,375	....	....
												*Six-passenger
NORWALK												
F	6-3½x5½	29.4	A. Kent	Rafid	G & D	Disk	4 131	37x4	1,875	....	....	....
OKLAND												
37	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3 112	33x4	1,150	1,050	....	....
49	6-3½x5	29.4	Delco	Johnson	Delco	Cone	3 123½	35x4½	....	1,685	....	....
Spdstr	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3 112	33x4	1,050	....	....	....
OLDSMOBILE												
43	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3 120	33x4	....	1,095	....	....
...	8-2½x4½	26.4	Delco	....	Delco	Cone	3 120	33x4	....	1,295	....	....
OVERLAND												
83	4-4½x4½	27.2	Mgnto	....	A-Lite	Cone	3 106	33x4	725	750	....	....
...	6-3½x5½	29.4	Spdfr	....	A-Lite	Cone	3 120	35x4½	....	1,145	....	....
OWEN												
...	6-3½x5½	33.7	Owen	Master	O M	O M	136	35x5	3,750	....	3,750	....
PACKARD												
...	12-3 x5	43.2	Timer	Own	B. Jur	Plate	3 125	36x4½	....	2,600	2,950	....
PAIGE												
Slx	6-3½x5½	29.4	Bosch	Rafid	G & D	Disk	3 124	34x4	1,285	....	1,290	....
6-36	6-3 x5	21.6	Remy	Rafid	G & D	Disk	3 112	32x4	....	1,065	....	....
PARTIN-PALMER												
20	4-3½x4	15.6	A. Kent	Muir	G & D	Disk	3 96	28x3	495	....	....	....
38	4-3½x5½	22.5	A. Kent	Stmbg	G & D	Done	3 115	33x4	1,075	....	....	....
PATERSON												
4-33	4-3½x5	19.6	Delco	Stmbg	Delco	Cone	3 112	33x4	....	1,095	....	....
6-48	6-3½x5	29.4	Delco	Stmbg	Delco	Cone	3 124	34x4	....	1,495	....	....
PATHFINDER												
...	6-3½x5	29.4	Walth	Shblr	Walth	Disk	3 122	35x4½	1,885	1,885	....	....
...	12-3 x4	43.2	Walth	Shblr	Walth	Disk	3 122	35x4½	1,975	1,975	1,975	....
PEERLESS												
54	4-3½x5	22.5	A. Kent	Stmbg	G & D	Disk	3 113	34x4	2,400	2,400	....	....
55	6-3½x5	29.4	A. Kent	Stmbg	G & D	Disk	3 121	34x4	2,250	2,250	....	....
48-6	6-4½x6	48.6	Bosch	Own	G & D	Band	4 137	37x5	4,900	....	5,000	....
PIERCE-ARROW												
C-3	6-4 x5½	38.4	Bosch	Own	Walth	Cone	4 134	36x4½	4,300	4,300	....	....
B-3	6-4½x5½	48.6	Bosch	Own	Walth	Cone	4 142	37x5	4,900	4,900	5,000	....
A-3	6-5 x7	60.0	Bosch	Own	Walth	Cone	4 147½	38x5½	5,900	5,900	6,000	....
PILOT												
55	6-3½x5½	29.4	Walth	Shblr	Walth	Cone	3 126	34x4	1,885	1,885	1,985	....
75	6-4½x6	48.6	Walth	Carter	Walth	Cone	3 132	37x4½	2,885	2,885	2,885	....
PREMIER												
6-50	6-4 x5½	38.4	Remy	Rafid	Remy	Disk	3 132	36x4½	1,985	1,985	1,985	....
PRATT												
6-50	6-3½x5½	33.7	A. Kent	Rafid	G & D	Disk	4 132	37x4½	2,150	2,150	2,250	....
PULLMAN												
Jr	4-3½x4½	22.5	Spdfr	Stmbg	Spdfr	Disk	3 110	30x3½	740	740	....	....
6-68	6-3½x5½	33.7	Simms	Stmbg	Walth	Disk	4 134	36x4½	2,500	2,500	2,500	....
R-C-H												
K	4-3½x5	16.9	Bosch	B-D	W. Lnd	Cone	3 110	32x3½	....	775	....	....
REGAL												
D	4-3½x5	22.5	A. Kent	Stwrt	Dyneto	Cone	3 112	33x4	985	985	....	....
...	8-3 x4½	28	A. Kent	Stwrt	Dyneto	....	112	33x4	1,200	1,200	....	....
...	4-3½x3½	18.2	A. Kent	Stwrt	Dyneto	....	3 106	30x3½	650	650	....	....
REMINGTON												
...	4-3½x4	15.6	A. Kent	....	W. Lnd	Cone	3 105	30x3½	695	695	....	....
Ghnd	8-3½x4½	31.2	A. Kent	Zenith	G & D	Disk	3 116	35x4½	1,495	....	....	....
REPUBLIC												
E	6-4½x5	43.5	Delco	Rafid	Delco	Cone	4 132	36x4½	....	2,950	3,000	....
REO												
M	6-3 9-16x5½	30.4	Remy	Johnson	Remy	Disk	3 122	34x4	....	1,385	....	....
ST	4-4½x4½	27.2	Natnl	Holley	Natnl	Disk	3 112	34x4	1,000	....	....	....
B	4-4½x4½	27.2	Remy	Holley	Remy	Disk	3 115	34x4	....	1,050	....	....
ROSS												
A	8-3 x4½	28.8	....	....	Own	Disk	3 115	34x4	....	1,350	....	....
SAXON												
A	4-2½x4	11.2	A. Kent	Mayer	....	Plate	2 96	28x3	395	....	....	....
B2	6-2½x4½	20										

Motor Car Dealers Recently Established

COMMERCIAL VEHICLES

Place	Car	Dealer
Atlantic City	Vim	Eastern Motor Co.

PENNSYLVANIA

Hazleton	Vim	John Deam
Shamokin	Vim	Erb & Zaring

PLEASURE CARS

NEBRASKA

Benedict	Hupmobile	B. J. Huff
Florence	Maxwell	J. H. Price
Greenwood	Chandler	A. E. Palling
Mitchell	Case	Ewing & Kinnaman
Omaha	Kissel	Noyes-Killey Motor Co.
Omaha	Oldsmobile	Oldsmobile Sales Co.
Roca	Overland	Roca Auto Co.
Roca	Willis-Knight	Roca Auto Co.
Shelton	Hupmobile	H. M. Kitchart
Winer	Chandler	Chris Jensen

NEW JERSEY

Bayonne	Chandler	C. W. Beckman
Hammon	King	Wm. Turner
Merchantville	King	Merchantville Auto Co.
Ocean City	Hupmobile	C. B. Stilwell & A. R. Togg
Paterson	Hupmobile	Henry Schroeder
Summersville	Herr-Brooks	Wm. B. Quimby
Woodstown	King	John R. Watson

NEW YORK

Fonda	Oldsmobile	Ochamphugh Garage
Hemlock	Chandler	V. P. Owen
Hempstead	Kissel	National Garage
Lyndonville	Oldsmobile	Houel & Hill
Naples	Chandler	M. N. Fox
North Germantown	Oldsmobile	Clarke D. Lasher
Ogdensburg	Chandler	H. G. Chandler
Perry	Oldsmobile	P. R. Davis
Portchester	Chandler	Reynolds Empire Garage Co.
Rochester	Regal	A. M. Zimbrich
Scottsville	Hupmobile	S. R. Stottle
Suffern	Kissel	Peiper-Blanchard Garage
Syracuse	Regal	Central City Auto Co.
Troy	Oldsmobile	Oldsmobile Distributing Co.
		(James N. Bussey & Geo. S. Bord)
White Plains	Oldsmobile	Tri-State Supply Co.

NORTH CAROLINA

Charlotte	Chandler	Geo. Fitzsimon
Hickory	Hupmobile	R. C. Buchanan

NORTH DAKOTA

Dickinson	Oldsmobile	E. G. Holst
Hebron	Allen	Theodore Bolke
Jamestown	Hupmobile	Northern Auto Co.
Lands	Oldsmobile	O. F. Olson

OHIO

Archbold	Auburn	Yoder & Ehrat
Bridgeport	King	Bridgeport Auto Sales Co.
Bridgeport	Pullman	The Bridgeport Auto Sales Co.
Byron	Chandler	Erman Peterson
Clarksville	Hupmobile	G. W. Stephens
Chillicothe	Apperson	Lou Bierley
Democracy	Detroit	W. H. Kunkle
Findlay	Apperson	Auto Sales Co.
Hicksville	Oldsmobile	Kimble & Boom
Huron	Chandler	G. E. Rhinemiller
Ironton	Saxon	Wilbur E. Jones
Lithopolis	Herr-Brooks	Thurman Lisle
Marblehead	Oldsmobile	A. B. Jordan & Son
Marion	Hollier	E. W. Owne Machine Co.
Middletown	Chandler	H. R. Gardner
Napoleon	Hupmobile	S. E. Bissonette & Son
Oak Harbor	Oldsmobile	Geo. Tilton
Tippecanoe City	Chandler	Theo. M. Bell
Woodsfield	King	Spangler & Spangler
Zanesville	Oldsmobile	O. W. Wendell

OKLAHOMA

Bartlesville	Apperson	E. E. Flinn
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PENNSYLVANIA

Bloomburg	Chandler	Zehner Bros.
Clarion	Chandler	B. F. McClain
Devon	King	Devon Garage
Erie	Regal	The Model Garage
Flourtown	King	Seddon Garage
Germantown Pike	King	Moore's Garage
Haverford	Hupmobile	Longstreth Service Co.
Hazleton	King	J. L. Wagner
Jerome	Chandler	C. F. Trux
Meadville	Apperson	Robert R. Culver
Myersdale	Hupmobile	Myersdale Auto Co.
Mt. Union	Herr-Brooks	C. E. Culver
Myersdale	Hupmobile	Myersdale Auto Co.
Norristown	Oldsmobile	Keynote Auto Co.
Norristown	King	Norris City Garage
Salisbury	Oldsmobile	J. W. Woodend
Sheffield	Oldsmobile	John G. Cochran
Spring City	Oldsmobile	E. Kugler
Souderton	King	B. D. McIntyre
Tarentum	Hupmobile	H. M. Martin

RHODE ISLAND

Providence	Apperson	Baird-North Co.
Providence	Kissel	E. I. Kissel & Co.

SOUTH DAKOTA

Tyndall	Oldsmobile	J. J. Hrachovec
Watertown	Packard	W. C. Nissen
Watertown	Studebaker	W. C. Nissen & J. E. Smith
Watertown	Hudson	Blain Auto Co.

TENNESSEE

Place	Car	Dealer
Lenore City	Hupmobile	C. E. Morelock
Knoxville	King	Harth Automobile Co.

TEXAS

Alice	Hupmobile	H. F. Wurtz
El Paso	Kissel	Pioneer Motor Co., Inc.
Gregory	Hupmobile	E. W. Sanders
Hamlin	Hupmobile	Payne & Philo
Marshall	Chandler	L. S. Hawley
Matador	Apperson	Herring & Hubbard
Wichita Falls	Chandler	M. M. Cooke

VIRGINIA

Blackstone	Hupmobile	W. A. Chittenden
Newport News	Chandler	Hudson Hardy Co., Inc.

WASHINGTON

Olympia	Chandler	A. N. Daly & V. E. Meyers
Spokane	King	Cole Spokane Motor Co.

WEST VIRGINIA

Gassway	King	Thompson & Stalnaker
Moundsville	King	Trimble & Johnson
Summersville	Regal	H. M. Campbell

WISCONSIN

Blanchardville	Oldsmobile	Lawrence Syse
Columbus	Chandler	Fred T. Belinke
Elkhorn	Dodge	F. C. Wiswell Garage
Galesville	Oldsmobile	Galesville Auto & Liv. Co.
Lady Smith	Oldsmobile	W. D. Morgan
Leopold	Oldsmobile	Volz & Borhm
Milwaukee	Pullman	Pullman Automobile Co.
Milwaukee	Vim	Chase Motor Truck Service
Prairie Farm	Hupmobile	Geo. Belwanger
Sheboygan	Hupmobile	W. A. Knach Motor Co.
Sheboygan Falls	Hupmobile	Henry Fircke
Waukesha	Oldsmobile	Herbet Schults

WYOMING

Casper	Dort	W. A. Smith
Dixon	Paige	E. W. Reader
Douglas	Bulck	W. J. Morse & Son
Douglas	Paige	Rice Hdw. & Motor Co.

Motor Car Securities Quotations

No quotations for the corresponding data in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	August 21, 1915	
	Bid	Asked
Ajax-Grieb Rubber Co., com.	300	300
Ajax-Grieb Rubber Co., pfd.	101	110
Aluminum Castings, pfd.	100	103
Chalmers Motor Co., com.	98	99
Chalmers Motor Co., pfd.	94	97
Firestone Tire & Rubber Co., com.	518	535
Firestone Tire & Rubber Co., pfd.	111	111
General Motors Co., com.	202	207 1/2
General Motors Co., pfd.	106	107
B. F. Goodrich Co., com.	107	108
B. F. Goodrich Co., pfd.	55	57
Goodyear Tire & Rubber Co., com.	271	275
Goodyear Tire & Rubber Co., pfd.	108 1/2	110
International Motor Co., com.	23	25
International Motor Co., pfd.	50	53
Kelly-Springfield Tire Co., com.	174	177
Kelly-Springfield Tire Co., 1st pfd.	85	87
Kelly-Springfield Tire Co., 2nd pfd.	120	140
Maxwell Motor Co., com.	40	41
Maxwell Motor Co., 1st pfd.	86	87
Maxwell Motor Co., 2nd pfd.	34	35
Miller Rubber Co., com.	107	107 1/2
Miller Rubber Co., pfd.	112	119
Packard Motor Co., com.	98	100 1/2
Peerless Motor Car Co., com.	130	145
Peerless Motor Car Co., pfd.	42	42
Portage Rubber Co., pfd.	92	94
Reo Motor Truck Co.	17	18
Reo Motor Car Co.	32 1/2	34 1/2
Stewart-Warner Speed. Corp., com.	65 1/2	67
Stewart-Warner Speed. Corp., pfd.	105	107
Studebaker Corp., com.	99	101
Studebaker Corp., pfd.	105	107
Swinehart Tire & Rubber Co.	85	90
U. S. Rubber Co., com.	48 1/2	50
U. S. Rubber Co., 1st pfd.	104	105
White Co., pfd.	110	110
Willis-Overland Co., com.	171	171
Willis-Overland Co., pfd.	105	105 1/2

*Par value \$10; all others par value \$100.

Place	Car	Dealer
Lander	Dort	C. E. Thomas
Lander	Oakland	C. E. Thomas
Lusk	Dort	Wolfe & Son

Coming Events

*Indicates sanction by A. A. A.

Aug. 25-26	Newport, Ind. — Hill climb, Newport Motor Club.*
Aug. 28	Kalamazoo, Mich., 100-mile track race, Kalamazoo Motor Speedway.
Sept. 4	Twin City, Minn. — Speedway race meet, Twin City Motor Speedway.*
Sept. 11	Burlington, Ia. — Track race meet, Tri-State Fair.
Sept. 17-18	Peoria, Ill. Convention of Garage Owners Association of Illinois.
Sept. 18	Providence, R. I. — Speedway race meet, Narragansett Park Speedway.*
Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal. — 100-mile track race; Fresno Agricultural Association.
Oct. 2	New York — Speedway race meet, Sheepshead Bay Speedway Corp.
Oct. 4, 5 and 6	Columbus, O. — State convention; Columbus Garage Owners' Association.
October 7	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.
Oct. 9	Indianapolis, Ind. — 100-mile invitation Race, Motor Speedway.
Oct. 16	Chicago — Speedway race meet, Speedway Park Association.*
Oct. 18-19	Cleveland, O.; Hotel Statler; Sixth Annual Convention, Electric Vehicle Assn. of America.

Sept. 6-10	Indianapolis, Ind.; show, Indiana State Fair.
Sept. 6-9	Worcester, Mass. — Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
Sept. 6-15	Detroit, Mich.; show, Michigan State Fair.
Sept. 13-17	Milwaukee, Wis.; show, Milwaukee Automobile Dealers, Inc.
Sept. 17-18	Milwaukee — Show at State Fair by Milwaukee Automobile Dealers' Association.
Sept. 18-25	Los Angeles, Cal.; Broadway Automobile and Flower show, Automobile Dealers Assn.
Sept. 27-Oct. 10	Denver, Col.; show, International Soil Products Exposition, Automobile Trades Assn. of Colorado.
Oct.	Dallas, Tex.; show, Dallas Automobile Dealers Assn.
Oct. 2-9	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Oct. 3-10	Annual show, St. Louis Automobile Mfgs. & Dealers Association.
Oct. 6-16	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Nov. 1-3	Pasadena, Cal.; show; Hotel Green. Walter Hempel.
January 1-8	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
January 22-29	Chicago, Ill. — Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
Jan. 29-Feb. 5	Minneapolis Winter Show; Minneapolis Automobile Trade Assn., National Guard Armory.
March 4-11	Boston, Mass. — Fourteenth Annual Show; Boston Automobile Dealers Assn.; Boston Commercial Vehicle Assn.

THE SHOW CIRCUIT

Aug. 26	Ventura, Cal.; show.
Aug. 30-Sept. 3	Columbus, O. — Automobile show; Columbus Automobile Show Co.; Ohio State Fair.

MOTOR WORLD

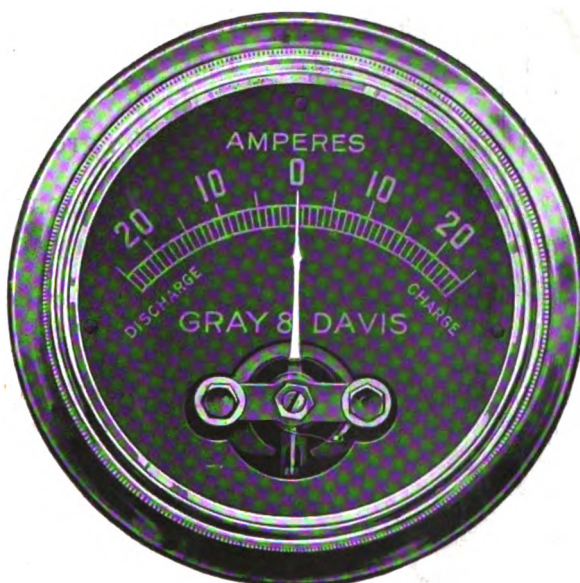
THE DEAD-ENDS' NATION

Volume XXIV
No. 2

New York, September 1, 1915

Ten cents a copy
Two dollars a year

Get This New GRAY & DAVIS Ammeter For Your Car



(Actual Size)

Price \$3.50

This new Gray & Davis ammeter is of the most advanced design—the “moving coil” type. Indicating hand will not vibrate. Scale contains *large* readable figures. Provided with “zero” adjustment feature.

Very handsome in finish. Nickel plated, gun-metal dial. It adds greatly to the appearance of any dash and can be fitted to all cars. Easily installed by drilling two holes for studs, then connecting wires.

Whether you drive a Ford or a \$7000 car—be *sure* about your ammeter. It quickly saves the purchase price by giving added assurance as to just what your electric system is doing.

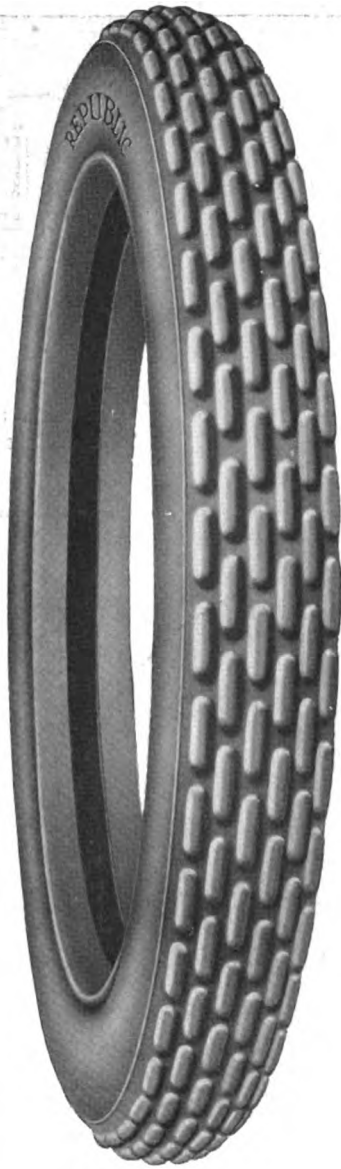
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GRAY & DAVIS, Inc.

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*Republic Staggard Tread
Pat. Sept. 15-22, 1908*

"Republic Tires protect you like an insurance policy!"

—says Old Man Mileage

"If your building were to burn down overnight, your insurance would protect you against serious loss.

"What assurance have you that your trade will stay with you? Are you sure your customers are so thoroughly satisfied with the tires you sell them, that they will come back again and again?"

"You can be absolutely sure of a steady, increasing trade if you sell Republic Tires. The supreme standard of **quality** that is observed in the manufacture of these tires, combined with the efficiency of the famous Staggard Tread, make them the greatest non-skid mileage-makers in the world.

"Like insurance, they protect you from loss of trade, because they make regular customers of first buyers.

"Write for details of the Republic proposition."

The Republic Rubber Co., Youngstown, O.
Branches and Agencies in the Principal Cities



*Copyright, 1914
The Republic Rubber Co.
Youngstown, O.*

**REPUBLIC
TIRES**
PLAIN, "WM"
AND STAGGARD TREADS
TRADE MARK REGISTERED
U. S. PATENT OFFICE

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Why Overland Dealers Are Making Money

THE Willys-Overland Company brought out this year—

First, the greatest selling car at \$750;

Then, the lowest-priced Knight-motored car ever built \$1095;

Now, the biggest, most powerful Six at the price in the world \$1145.

These three remarkable car values give Overland dealers the *biggest selling combination ever offered in the automobile industry.*

"Made
in
U. S. A."



The Willys-Overland Company
Toledo Ohio

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, September 1, 1915

No. 9

Clean Stock Creates Trade—*Abbott*

This Is the Business Slogan of a Man Who Keeps His Stock
So Clean That Even the Women Are Attracted to His Store



The spic and span condition of the showcase, the floor, the display on the shelves is plainly apparent. Glass is polished every day and great attention is given to careful display in the case. Goods not in the case are dusted at least twice each day

EVER see a lady in an accessory store? Not often. And why? It is not because there are no lady car owners. It is not because they do not require accessories or would not buy them.

It is simply because the average accessory store is repelling. Woman is the soul of cleanliness and order. Where the average business man's desk is a chaos of disorder, the home over which his wife presides is a model of cleanli-

ness and order. From desiring cleanliness and order and constantly seeing it, dirt and disorder becomes to a woman the most abhorrent of things.

That the woman car owner can be induced to enter an accessory store and that once having entered she will purchase AND WILL COME AGAIN, is known to some few dealers.

H. N. Abbott, manager of the Keystone Auto Supply Co., Philadelphia, knows it. He patterns his store largely

after the successful department store, where a single hair out of place on the head of a floor-walker causes a discord.

Abbott has a large number of women customers. They started coming to his store because it was always spotless, floors were scrubbed, glass show cases mirrored every object, stock was clean. In short, that feature of the average accessory store which is objectionable to women was eliminated once and for all.

The mere fact that Abbott has been

successful in attracting the trade of his women customers where others have been so notably unsuccessful in achieving this desirable result, makes plain that the true merchandising spirit per-

"With a well-arranged, clean display, avoiding overcrowding, accessories sell themselves. To a steady customer regular and frequent changes of displays are imperative."

—H. N. Abbott.

meates his being. Abbott does not cater entirely to women. Actually, they form but a very small proportion of his customers. His prime object in making his store attractive was to increase sales to his men customers. He made it so bright, so compelling in its attractiveness, that the women are drawn to it along with the men, as iron is to a magnet.

Cleanliness With Fine Display

The Keystone Auto Supply Co. operates its accessory business in conjunction with a garage that stores 50 pleasure cars and 10 commercial vehicles. And the spirit of cleanliness that is so plainly apparent in the accessory department extends also to the garage. Walls are white-washed regularly; floors are scrubbed, and never a spot of grease or oil is permitted to escape the eagle eye of him whose duty it is to see that everything shines with a luster that is not allowed to become dim.

Where such a policy of cleanliness prevails it is but natural to find also that effective display of merchandise is one of Abbott's hobbies. The company does business in one of the busiest sections of the city, and as both the entrance to the garage and the display window

are together, display space is necessarily limited.

But what there is is utilized to the fullest possible extent. In this respect

"The sooner the garage and accessory man adopts this system (neat arrangement and cleanliness) the better it will be for him. He will save time and make more money."

—H. N. Abbott.

Abbott deviates somewhat from the average practice in that he keeps his window dressed with such articles as are in steady demand. New goods are well displayed as a matter of course, but it is goods that everyone needs and everyone buys that are given greatest prominence. The psychology of this is excel-



Though the window display is necessarily limited the fullest advantage is taken of it. Displays are changed weekly and cleanliness is the keynote. Beside the entrance there is a push button so that motorists can call the gasoline man and be served instantly

lent and already has been pointed out many times. The person who has stopped for gasoline sees before him the objects for which he has a need but which he may perhaps have forgotten for the time. The window display is changed religiously every week.

Makes It Easy to Buy

Abbott is a great believer in the value of the price ticket. The price of every article is plainly marked. This saves the salesman time, and also tends to increase sales by eliminating such slight embarrassment as might be felt by those who have no real need for a particular device but who would buy if the price were in accordance with their desires.

Immediately upon entering the store, the prospective purchaser is confronted with a large square table containing a considerable variety of miscellaneous stock. Here, price cards are used extensively, and contrary to the usual practice the stock is very carefully arranged and no pains are spared to insure that every article is absolutely clean.

Everything in the store, from the individual cans of oil on shelves to the

"I have been following up the Dirt vs. \$'s Campaign in Motor World and think it is one of the best things ever inaugurated for the benefit of the trade."

—H. N. Abbott.



Heavier goods such as oils, greases, demountable rims, etc., are kept in a corner of the salesroom all to themselves and here, too, a rigid policy of cleanliness is strictly enforced. The careful arrangement is noticeable

heavier articles which are stored on the floor, is dusted at least twice daily. It has been found as profitable as it is necessary to do this regular dusting, for the store faces on Broad street, with its never-ending stream of traffic, and there is a more than ordinary amount of dust



Polished floors and neatly arranged layout of the accessories stock of the Keystone company. Even where goods are not placed in showcases great care is taken to see that the display is symmetrical and pleasing. Every article has its own place and is kept in it. The merchandise on the table is plainly marked with price tickets

and dirt in constant circulation and as constantly settling.

The show cases are arranged along the side walls, and the space beneath them is utilized for the storage of stock, there being a series of small drawers each carrying on its front a sample of its contents. The principal show case, which is illustrated herewith, is crescent shaped and the glass is constantly, almost continuously, polished both inside and outside. Within the case considerable attention is paid to arranging the merchandise symmetrically. No suggestion of crowding is permitted to spoil the effect. Even the advertising literature and display devices on the top of the case are arranged with great care.

Display Always Sightly

Anything that has a slipshod appearance has no place in this salesroom. Only the stock which is susceptible of good display is carried either in the show cases or on the display table. Such heavy and more or less unsightly objects as oils, greases, demountable rims, etc., are placed in a department by

themselves at the rear of the salesroom.

The cardinal points in the service rendered by the Keystone company are

"A clean and well arranged stock of accessories not only brings customers, but holds them, for car owners naturally hesitate when entering a store to find things upset and dirty."

H. N. Abbott.

cleanliness, quick service, reliability and attractiveness. As an example in point, it is worthy of note that Abbott himself makes it one of his personal duties to know every part of the stock in order that material required quickly can be supplied instantly and with complete satisfaction. What a knowledge of this kind may mean is revealed by the fact that the stock inventories approximately \$8,000, and some idea of the amount of business that is done may be gained from the volume of lubricating oil sales, which averages 800 gallons a day.

Another single instance which will serve to illustrate the lengths to which service is carried is that though the accessory store is not normally open at night, the night garageman is furnished with a key and has access to the stock so that the belated motorist can obtain anything during any hour in the twenty-four.

NEVER CLOSED.

Were you ever stuck for a Tire or Tube
When you wanted to go, but couldn't move
And the sun was shining and you had a date
And every fool place had closed its gate
On a Holiday or Sunday perhaps?
Then just remember the KEYSTONE SUPPLY
Who are ready for you and want you to buy.

BILL MILLER.

**COMPLETE STOCK OF TIRES & TUBES.
EVERYTHING FOR THE MOTOR CAR.**

KEYSTONE AUTO SUPPLY CO.

2730 N. Broad Street, Philadelphia, Pa.

THE LARGEST SUPPLY HOUSE UP-TOWN.

Mailing inserts go out with all the concern's mail. This is a sample which calls attention to the fact that supplies are always available, Sundays, holidays and nights

The Local Show

Page 11

Two Letters—Each a Sermon in Itself

Your Mechanic Can Influence Sales and Thus Earn Profit for You

Editor Motor World:

In the furthering of your campaign in which you endeavor to show accessory dealers how to make money, I want to call your attention to the following: I have called on a great many garagemen and find that a large per cent of proprietors of country garages are generally to be found back in the shop lying under a car, covered with grease and dirt, when a salesman calls on them, and it is a rare thing when I get a chance to shake hands with the proprietor of the small country garage, because his hands are so dirty he refuses to shake hands.

I have had an hour's work done on my car many a time and been charged only 25 cents. I maintain that there is no profit for the proprietor of a garage in the repair work that he does, and it is rare for him to make a profit from the mechanic that he hires.

Hired Mechanic a Problem

In some of the better country garages, where one or two mechanics are hired on a salary, the salary in this territory is about 35 cents per hour and the charge for the mechanic's work is about 60 cents per hour. Therefore, it is necessary for the mechanic to work 10 hours in order to show the garage proprietor a profit of \$2.50, and should there be 2 hours during the day that the mechanic is not bringing 60 cents per hour, then, instead of the proprietor making a profit of \$2.50 off his mechanic in a day, he only makes \$1.30 because the mechanic has only made him a profit of \$2, out of which the proprietor pays the mechanic 70 cents for unproductive time.

The fact of the matter is it is very unusual for the hired mechanic to bring 60 cents an hour for more than half of his time. Therefore, my advice to each of such proprietors is something like the following:

I say to them if a customer brings his car here for you to repair it, he shows confidence in the ability of your mechanics and he will also be guided by the advice of your mechanics and by you. If he did not believe that your advice can be trusted he would take his car somewhere else to be repaired. Therefore, if you have any standing in the community and with your customers you are in better position to give them advice that will make you a profit.

What I mean by this is that should

your mechanic or yourself advise a customer that he needs a good new set of high-grade spark plugs you can usually convince him of the fact in 10 minutes, and if you cannot convince him any other way, put the spark plugs in his engine and tell him to try them and if they are not satisfactory you will take them out after he has given them a trial.

In more than nine cases out of ten you will sell the man a set of spark plugs, upon which your profit is \$2.50, and if upon the advice of your mechanic you sell the customer a set of spark plugs, your mechanic has really done you some good that day and made you some money. Spark plugs are only one item upon which you may work this plan, but good spark plugs are undoubtedly the most important item.

Red-hot Demonstration

However, you should not overlook the opportunity to sell a man a tire or a tube or a tire repair outfit, a can of tire cut filler and many other things too numerous to mention. In order to convince certain skeptical dealers that there is more money in selling accessories than there is in working in the grease and dirt, I have said to some of them: "If you will wash your hands and get in my car and go with me down the road, we will stop my car under the shade of a tree on the public highway and stay in one spot for three hours, and I will make more money selling spark plugs to the car owners who drive along than you ever can expect to make in one day doing repair work." And I have positively demonstrated it can be done.

The thing for the garageman to do is to discard his overalls and jacket and put in some time on accessories. The fact of the matter is that nine times out of ten when an engine gives trouble the difficulty is in the spark plugs, and I have corrected the trouble of thousands of cars in the last two years by simply putting in a set of spark plugs and I am pretty thoroughly convinced that over half of the work done on cars by country mechanics is unnecessary. During the last 10 years I have seen hundreds of cars run into a garage and overhauled when all the engine required to start was a set of new spark plugs.

The average country mechanic has no more business taking a magneto off a car than he has in trying to repair an electric starter. The fact of the matter is he knows nothing about either one of them and the thing for him to do is to stick to something that he knows something about and he will have more friends among the car owners and make more money for himself.

The Hel-Fi Hill Co.,
Kansas City, August 20. Chas. E. Hill.

Concerted Action Is Needed to Stop Cut-price Mail Order Evil

Editor Motor World:

We have been following with a great deal of interest the articles in different issues of your magazine devoted to the discussion of the mail-order business. When these articles first started we thought that they would be about as short-lived as the other articles that have appeared in other magazines, which have created a little flurry and then died out. We are glad to see, however, that you are in earnest in this matter, for we believe that it is a question which vitally affects the entire industry in the United States.

We believe that concerted action on the part of the jobbers would remedy this great evil, and we, ourselves, have adopted a policy of leaving out of our catalog the coming year all goods which are sold to cut-price mail-order houses. We have already turned down two or three of the best selling articles in our line because the manufacturers would not make any effort to control the price and insisted upon selling to cut-price concerns, who are selling to the consumers at prices only a trifle above what our cost was.

Price Cutting Spells Ruin

We have been fighting this proposition for about two years, and if there is anything we can do in the way of concerted action we would be very glad indeed to do anything in our power, for we realize that a continuance of the methods employed heretofore by certain manufacturers will mean the ultimate ruin of the jobbing business in automobile accessories.

Assuring you that we are with you in this campaign and wishing you all the success in the world in your efforts, we remain,

Yours very truly,

Cummings Brothers,

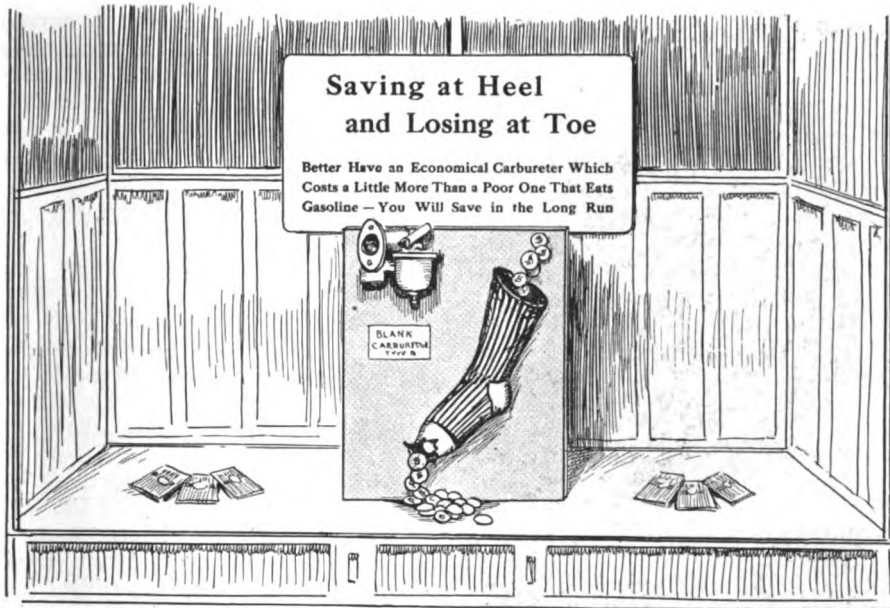
E. M. Cummings, President.

Flint, Mich., August 21.

The Local Show

Page 11

Have You Voted?



Old Sock Basis of Carburetor Window

Economy of Good Carburetor Shown by Use of Sock With Money Issuing from Hole in Toe

PENNY WISE and pound foolish economy is the central idea in this window, and any accessory that illustrates this point may be used or, in fact,

several may be used at once. For example, a poor carburetor costs more in the long run than a good one; what is saved in first cost is made up in the extra gaso-

line consumed. It is an example of saving at the heel and losing at the toe of the sock and this point may be simply and effectively illustrated by showing a sock with a torn toe, the money pouring in at the top and spilling out through the hole. Near the sock is the carburetor which is being pushed, and above both is a sign that explains why the poor carburetor is an example of saving at the heel and losing at the toe.

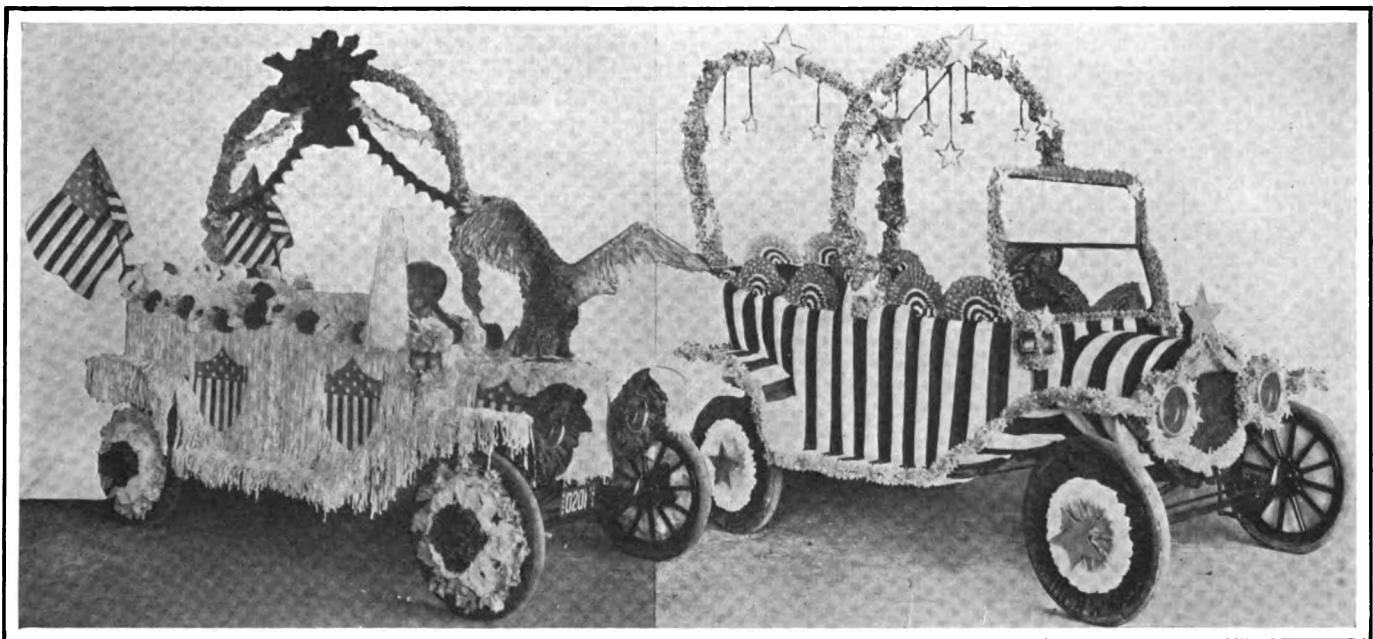
The sock should be hung carelessly from a board, as shown, which also carries the carburetor and a sign giving the name and price of the instrument. The sock is tacked lightly to the board and then stuffed with cotton to give it shape. A few coins are glued to the board at the top and bottom, and some more coins are thrown in the top of the sock and also below the hole.

The sign placed above the sock should be made of bristol board and the lettering should be spaced about as shown. The words should first be sketched roughly in pencil so that the spacing will be correct and then they should be filled in with india ink.

Tires, tubes, shock absorbers, oil, grease and many other things may be substituted for the carburetor.

The background of the window should be plain.

Decorated Cars for Labor Day Display for Less Than \$10



Either of the cars shown above may be trimmed for less than \$10. To trim the one at the left—first procure a pole about an inch in diameter and 16 feet long, which will bend easily. A cheap bamboo fishing pole will do. Wind the pole with blue garlands or strips of crepe paper. From the center of the arch suspend a red paper bell. Red and white paper festoons are then draped from the sides of the pole to the point from which the bell hangs.

The basis of the body trim is white crepe paper fringe made as follows: Stretch a fold of paper and then cut in thirds and fold up three times, leaving an uncut border at the top. Make the

fringe by cutting across the grain of the paper. Glue this border of the fringe to cloth tape and fasten the tape to the car. This method does not damage the car in the least.

The large red, white and blue poppies are made easily from tissue paper. A row of them is pinned to the top of the fringe and others are fastened in the spokes by their wire stems. Large tissue paper poppy petals are fastened around the hub of each wheel and around the lamps.

The crepe paper flags and plumes are fixed to the four corners of the car as shown and the hood is crowned with a paper eagle or some other appropriate emblem.

In trimming the car on the right, first wind the poles with white garlands or strips of crepe paper. The stars suspended or attached to the poles are made by cutting from pasteboard and covering with gold paper.

Alternate strips of red and white crepe paper form the basis of the body trim. These strips can be glued to cloth tape and the tape fastened to the car. Patriotic paper fans, partly opened, form a border around the top of body.

The wheels are covered with strips of red, white and blue crepe paper attached to the spokes with covered wire. The material is furnished by the Dennison Mfg. Co., New York.

Eisemann Starter for Slowly Cranked Motors

Quick Impulse Given Magneto Armature at Proper Time by Releasing Springs—Entirely Automatic

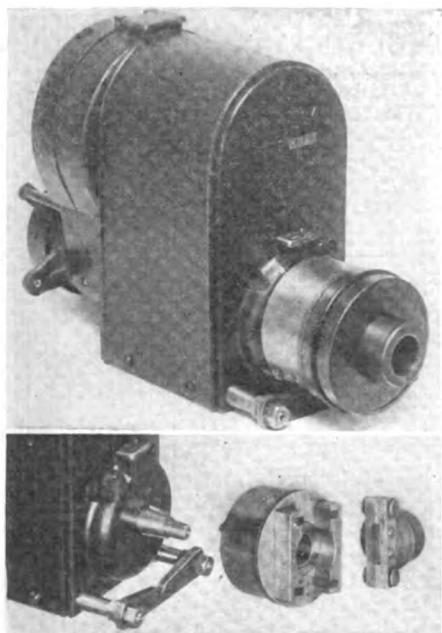
Intended for Trucks but May Be Used on Pleasure Cars—Incorporates Special Coupling

What is termed an impulse starter has been developed by the Eisemann Magneto Co., Brooklyn, N. Y.; it is a device which causes a standard magneto to produce a hot spark regardless of how slowly the motor is cranked. It is intended especially for heavy motors used on trucks, tractors, etc., though it may be employed on pleasure cars.

The production of a hot spark regardless of cranking speed is accomplished by automatically compressing and releasing two springs which are part of the driving mechanism and which give the armature a sharp twist and thus cause the spark to occur at the proper moment. At speeds above 120 r. p. m. the device is automatically drawn out of action. The device can be attached to any model Eisemann magneto.

Fig. 1 shows the device when the motor is running, when it merely acts as a coupling between the drive shaft and the armature. Fig. 2 shows it just before the trigger lets go and the armature is snapped forward producing the spark.

The member A is driven from the timing gear; B is the part that drives the armature; C is a trigger which transmits



Upper—Magneto with impulse starter enclosed in inner shaft casing. This device also incorporates the Eisemann coupling in outer shaft casing. Lower, left—Notched bar which engages trigger. Right—Device with coupling disassembled

the drive from A to B when the motor is running and drops in the notch in the cross bar by the action of gravity when the crank is slowly turned.

The impulse springs are placed between the two blocks D which are fastened to the driven member B, and the pins E which are part of the driving member A. Turning A in a clockwise direction compresses the springs.

When the crank is turned the trigger is moved around so that it drops into the notch in the cross bar and thus holds the driven member B temporarily against rotation. Further move-

ment of the crank handle compresses the springs and when the compression is complete the cam on the trigger comes into contact with the driving member A and pulls the trigger away from the notch in the cross bar, thus releasing the driven member and allowing it to fly in a clockwise direction, rotating the armature and producing the spark.

The trigger is heavily weighted on its upper half and as soon as it is rotated it tends to move inward still further so that when the driven member snaps in a clockwise direction, the trigger drops into the notch F in the driving member, Fig. 1. This feature allows the drive to be positively transmitted and removes the load from the springs. This connection is maintained until the speed drops below the minimum operating speed of the motor, at which time gravity becomes stronger than centrifugal force and allows the trigger point to come into contact with the notch again.

The construction throughout is heavy and substantial. The trigger is hardened steel and the springs bear against thin spring steel liners.

All parts are fully enclosed and operate in grease. The device also incorporates, on its driving side, a standard Eisemann coupling which allows the magneto to be removed when lifted.

Boosters' Outing Sept. 22

NEW YORK, August 30—The Motor Club Boosters will hold an outing at Fred Wagner's farm at Smithtown, L. I., on Sept. 22. William Allen, of the Allen Auto Specialty Co., is general manager.

Lenox Plant Moved to Lawrence

Lawrence, Mass., Aug. 30—The Lenox Motor Car Co., Boston, Mass., will build a reinforced-concrete factory to cost \$100,000 in this city. It is stated that the company will enter the commercial vehicle field.

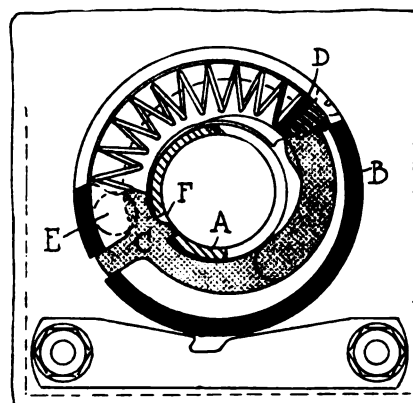


Fig. 1—Position of device when engine is running. The drive from timing gear to magneto is through member A, to trigger C, to shell B, which is keyed to the armature. Trigger C is held away from the notch in the cross bar by centrifugal force. When the motor stops and is slowly cranked to start it again, gravity overcomes centrifugal force and the trigger drops into the notch

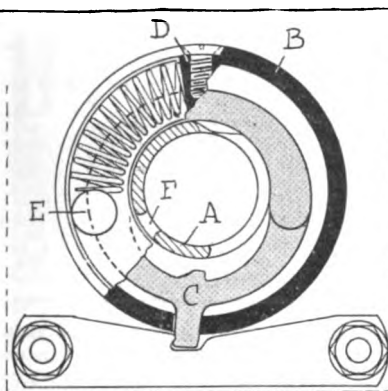


Fig. 2—Impulse starter just before the trigger C is pulled out of contact with the notched cross bar, thus allowing the springs to expand and give the armature the impulse which produces the spark. The impulse moves the trigger around so that it engages notch F, as shown in Fig. 1. The trigger is drawn up by the action of centrifugal force due to the fact that the upper half is heavily weighted

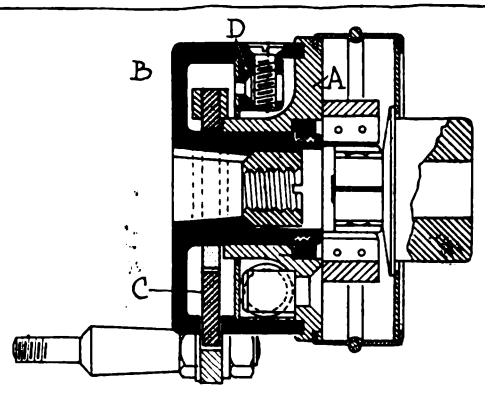


Fig. 3—Section through impulse starter showing coupling on the right. The trigger is indicated at C and it will be noted that there are two strips attached to the upper half to weight it. The member B is keyed to the armature shaft and the member A is driven by the coupling which in turn is driven from the timing gears. The cover to the coupling is detachable by removing a spring wire ring

Many Dealers Favor Fall For Their Local Show

Possibility of Showing All New
1916 Models At Once Prompts
Several Widely Separated Cities
To Schedule Fall Shows—101
Dealers Answer Motor World

Query

DURING the past three weeks 101 dealers have answered the question, "What is the best time to hold the local show," asked in the August 11 issue of Motor World. Of these 101 dealers, 37 have expressed a preference for January, and 21 want the local show in February, and all of them have excellent reasons for making their choice. In mere point of numbers, March is the next most popular month, and it is significant that for next choice all the intervening months from April to September, inclusive, have been skipped and October settled upon.

Local Conditions Important

That there is a best month for the local show stands to reason; in certain sections of the country a show will draw better and greater business will result if it is held in January or February; in another section a show in either of these months may be almost a flat failure.

This has been the experience of these dealers.

What governs the time when a local temperament of the inhabitants of the section? Is it weather conditions? Is it the condition of crops, whether sprout-

ing or just harvested? These are some show can be held with the greatest profit to the dealers concerned? Is it the of the questions which the dealer must answer for himself.

For a Fall Show

Under present conditions, with practically all manufacturers announcing their new models during the summer months, there is much to be said in favor of a fall show, and those who favor this time of the year are not at all backward in saying so. Take the example of the dealers in Troy, N. Y., whose announcement is reproduced on this page. This announcement which, by the way, is in the form of a mailing insert folded in the center, tells its own story. It states that owing to manufacturers bringing out their new models so early this year the dealers are going to hold a fall show so that they can exhibit all new 1916 models and also feature closed cars.

AT THE **TROY** AUTOMOBILE SHOW

STATE ARMORY, Troy, N. Y.

OCT. 18 TO 24, 1915

Open Daily From 11 A. M. to 11 P. M.

The Troy Automobile Dealers decided on account of the manufacturers bringing their "1916" models out so early this year, that they would hold a Fall Show "SHOWING ALL NEW 1916 MODELS" thereby, giving the buyers a chance to place their orders for early delivery. Also, at the same time, featuring closed jobs.

**Come In Your Car Bring the Whole Family
Plenty of Parking Space**

ADMISSION 25c

Mailing insert that is being distributed by the Troy, N. Y., dealers calling attention to their fall show and also making plain their reason for holding the show at this season

THE DEALERS WHO VOTED

JANUARY

Montreal Auto Trade Assn. Montreal
H. P. Perkins, Packard Cleveland Co.,
Cleveland

JANUARY-FEBRUARY

H. P. Sturm, Clarksburg A. Co.,
Clarksburg, W. Va.

FEBRUARY

Ernest T. Conlon, Auto Business Assn.,
Grand Rapids
J. A. Walde, Mound City Buggy & A.
Co. St. Louis

SEPTEMBER

W. W. Barnett. Denver

THE VOTE TO DATE

JANUARY	37
FEBRUARY	21
MARCH	13
SEPTEMBER	7
OCTOBER	12
DECEMBER	3
NOVEMBER	5
JAN.-FEB.	2
FEB.-MAR.	1
TOTAL	101

You

have not voted yet. Motor World wants your vote on this question. With your vote send a letter setting forth your reasons for choosing the particular month you favor.

Remember

This is a vote for the month in which to hold your **LOCAL SHOW**—not the National events in New York and Chicago.

Vote Here—Tear Out—Mail

Motor World, 1915
239 West 39th St., New York

I am in favor of holding the annual show in the month checked.

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

JANUARY
FEBRUARY
MARCH
APRIL

Signed

Position

Company

Address

Nor are the Troy dealers alone in their belief that a fall show is the best. In 15 other cities shows will be held this fall, and as an indication that climate has little or nothing to do with choice, it is interesting to note that these cities are as far west as Pasadena and Denver and as far south as Dallas.

The sentiment in favor of having all manufacturers announce their new models at a predetermined time grows apace, as is revealed by several of the letters reproduced herewith. In both Minneapolis, as is revealed by an item on another page under the heading As-

sociation News, and in Omaha, the dealers have taken a definite stand on the matter and have forwarded petitions to the National Automobile Chamber of Commerce asking that action be taken. The national body has a committee at work on the question and it is expected that a report will be made in the near future.

In the meantime what is your opinion of when the local show should be held? Motor World has not yet received your vote. Mark the coupon today and mail it in.

Read these opinions:

Why the Show Should Be Held in a Particular Month

JANUARY

T. C. Kirby, secretary of the Montreal Automobile Trade Association, says:

"From experience we find that our shows in Canada cannot be successfully held until after the New York show, consequently we generally endeavor to fit our Montreal show in between New York and Chicago. Our dates are not definitely fixed yet, but in any case they will be held around the third week of January."

O. L. Weaver, Cleveland (Pierce-Arrow), says: "The proper time, in our opinion, in which to hold a local show would be a very partial one, for the reason that our principals intend in the future to first show any changes in their designs at the January New York show. Automobile shows were originally promoted as a means of the manufacturer showing the agent and the dealer, as well as the public, his new products and models, and they lose considerable of their value if they do not serve that one purpose. It is our opinion that new models should be brought before the dealer and agent at the New York and Chicago shows, and that local shows, for bringing these models before the public, should follow as soon thereafter as is feasible. Most of the local shows, due to the time of announcing new models by most of the manufacturers, are a useless expense to the dealer and a serious menace to his fall business, and the sooner the manufacturers wake up to this fact the better it will be for both themselves and the dealer."

FEBRUARY

W. V. Orton, Pittsburgh (Buick), says:

"While late models of the Buick reach the city salesrooms early in the fall, it is not until around December that agents in the small towns nearby are supplied. When the show is held in February it enables the small-town dealers to bring prospective customers in to compare the car with other makes. It is about the opening of the active season in the automobile business and enables deliveries to be made at the time the roads are open to travel. A show held later in the spring would come when the Buick stock of late model cars was exhausted."

E. J. O'Reilly, Pittsburgh (Scripps-Booth and Stevens-Duryea), says:

"February is the month when interest in an automobile begins to awaken. It enables a prospect to view all the cars and spend his spare time during the remaining cold weather months in picking the right car from the list of those he likes. Only a few sales have resulted from exhibitions in the past at the fall shows, these mostly being closed cars. The best time to exhibit cars is at the opening of the buying season."

T. K. Hays, Bloomington, Ill. (Cadillac, Buick and Detroit), says:

"February is the ideal month for the show."

We have the state and county fairs with their exhibits in the fall and these take the place of the annual show. It is true that the fall is the time to sell the closed car, but the only way to dispose of them is to place salesmen on the job and devote hard work in interesting prospects. Business revives in the spring and the roads improve. For these reasons I favor a spring show. A fall snow would interest the city people, but would never win among the farmers. The latter are too busy in the fall."

MARCH

J. R. Histed, Minneapolis (Hudson), says:

"March is the time for the show here. With a winter show it is too long before the people start to buy. Winter holds on longer here than farther south. The first of March is a better time than the fall. The show defeats its own purpose when it is held in the fall. The first purpose of a show is to create a desire to buy cars. Why create a desire when it cannot be filled? This would be the case with a fall or a winter show. Why not begin the buying season with the show some time in March?"

J. L. Murray, Bloomington, Ill. (Garageman), says:

"I am strongly in favor of the spring show and perfer March. Closed cars are becoming obsolete in Illinois and dealers here are paying but little attention to them, due to the dwindling demand. In addition, the roads become broken up in the fall in Illinois and no one wants to buy a car at that time to tie up in the garage all winter. Models frequently change during the winter for presentation at the New York or Chicago show, and a fall show in the smaller towns would lose the later models. I am strongly opposed to a fall show and also the practice of changing models in the late summer. Farmers find the February and March months to be their period of leisure and they have more time to visit a show."

SEPTEMBER

G. S. Loomis, Louisville, Ky. (Packard, Hudson and Dodge), says:

"There are two seasons when people buy cars, April and September. April sales time doesn't need the stimulus of a show because good weather follows. During July and August there is a slump in business because people are away from the cities. When they return in September it is an excellent time for a show. It gets them aroused for fall business. Mid-winter is preceded and followed by dull seasons. This then would be an artificial time to try to stimulate trade. Nothing new is out in mid-winter. All the latest models can be displayed in September."

Hubert Levy, Louisville, Ky. (Cadillac), says: "September is the ideal month for an annual automobile show. Dealers won't come to my way of thinking very readily, because most of

them for some reason or other seem to look upon a motor show as a form of entertainment and believe that the time for such entertainment is during the winter months. Looking at a show from a commercial standpoint, I believe it should be held as early as possible. The new models are in the dealers' hands by September and, if a show is staged in the fall, prospective buyers wouldn't have to run around to the different salesrooms. It would also result in the dealer disposing of the larger part of his allotment before the first of the year. Weather is better in September and permits of good practical demonstrations. The holding of a show in January interferes with stock taking, invoicing, etc. The automobile should be like any other business in that new goods should be displayed the first part of the season. In February and March a great majority of prospective buyers are looking forward to next year's models. Anything displayed in the exhibitions in January, February and March can be shown in September."

H. D. Brasher, Columbus, O. (Cole), says:

"We believe twice a year, as we have indicated by our vote, September and January. We suggest September for the reason that there is going to be quite a little closed business and it is a splendid time to show the models which will be bought during the fall for winter use. There is another thing we want to call your attention to, and that is the time of announcing models. We don't believe that models should be announced during the selling season. It is most detrimental to closings, as people will wait until they see the new models, thus making the sales more costly to produce. As an association, here in Columbus we have taken action against this and we would like to have you try to educate the manufacturers to announce models during the winter, when the selling season is closed. Of course, closed models can be announced during August and September and shown at the fall shows. This seems good reasoning to us, as it is as costly to the manufacturers under the present style of announcing all year long as it is to the dealer."

Robert R. Weaver, Columbus, O. (Chalmers

OCTOBER

and Pierce-Arrow), says:

"I rather think the time for holding shows should be in the fall, as most of the models are coming out at that time. If we do not have the shows in the fall, possibly in October, the people are saying that they will wait until the new models come out. It would give the dealer a better chance to work the trade, as they could get hold of new people and new prospects, and that is what the dealer wants to make a success of selling automobiles. The selling season is pretty nearly over at that time and the dealer will have time to handle the prospects properly."

R. P. McAllister, Pittsburgh (Cadillac), says:

"I favor October because the new models have just been received and, also, because closed cars can then be demonstrated. I find more persons ready to consider a machine at this season. A number have become interested in motoring during the summer and the fall is the time to catch these people. September would be too early, as the vacation season is not ended then and many prospects are out of the city. By spring the minds of most buyers already have been made up and dealers are busy taking care of the regular trade."

J. E. Lockwood, Bloomington, Ill., says:

"I think the movement to switch the shows from the spring to the fall is a wise one. Farmers have sold their crops and have money in the bank ready to invest in a car. There is a more prosperous tone in the air in the fall than in the bleak spring months before winter has left us. There is no use in trying to interest anyone in a closed car in the spring. The fall months are the best for the enclosed car salesman. Many persons who plan to buy a car for a Christmas gift would prefer the fall show."

Facts About Cars

High Speed Fan a Crankshaft Vibration Damper

Tightly Adjusted Belt All That Is Required for Successful Operation

An engine which suffered from a bad periodic vibration was the first small Knight motor made by the English Daimler Co. The fault was that the crankshaft was too weak so that torsional vibrations occurred at certain speeds of revolution. A new belt was fitted and, knowing the proclivities of new flat leather belting for stretching, the adjustment was set as tight as possible.

Starting out on a run my friend was surprised to find that he got up to 48 m. p. h. without the vibration that ought to have started at 38 m. p. h. Within a couple of days, however, it was as bad as ever and back at the old spot. The driver knew that nothing had been done save to fit the new belt, so he tightened it up again and at once found he had raised the period by 10 miles, just as before.

At that time the Lanchester vibration damper, now being used on the Packard twin six, had not been discovered, and the solution of the problem remained a mystery for a long time. When Lanchester brought out his damping device the explanation was found, as the fan had obviously acted as a flywheel and resisted any torsional oscillations of the crank, absorbing the extra energy by belt slip.

This does not mean that a vibratory motor can always be bettered by a very tight fan belt, but a combination of heavy fan and tight belt does really assist to damp out vibrations which are due to the crankshaft twisting, though the vibrations due to other causes would be totally unaffected.—A. L. Clayden.

Tempering Leaf Springs

In making a leaf spring the steel is heated to a high temperature, a bright red heat, and then bent into the proper camber, after which it is heated again at a lower temperature to bring it to its full strength. After cambering, while it is still hot, it is plunged into oil and so tempered. This leaves it brittle, and the purpose of the second heating is to remove this brittleness just sufficiently and without removing the springiness also, as annealing would do. The exact temperature at which the cambering is done and the proper heat for drawing vary with different sorts of steels, and the purpose of the laboratory furnace is

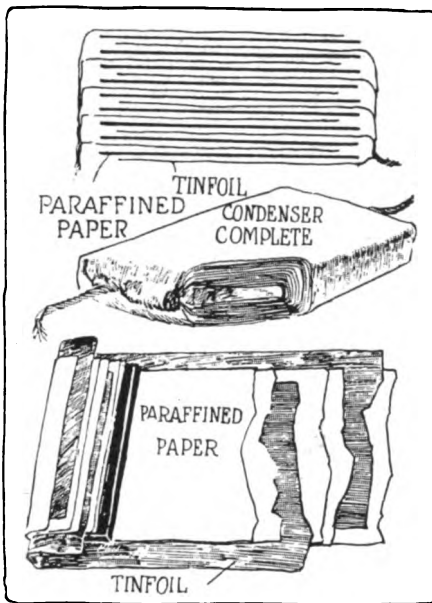


Fig. 1—Construction of condenser

to find out by experiment the proper heat at which to bend and quench the steel in oil. The salt bath, as it is called, is a metal vessel in which molten salt is contained, it being easy to keep the temperature constant at any desired degree of heat, just as it would be easy to keep water at any steady temperature below boiling by adjusting a gas flame beneath the vessel.

Thus steel spring leaves plunged into this molten salt take a perfectly even temperature, and when they have soaked long enough they are taken out and allowed to cool slowly in the air.

Van Sicklen Speedometer Principle

The principle of operation of the Van Sicklen speedometer is not generally known. It differs from all others in general use in that it depends on an air current for its operation. This current is generated by a spiral gear pump which is driven in the conventional manner by a flexible shaft. This current is

directed against a vane attached to the inside of the floating dial, Fig. 2. The floating dial itself is a light inverted cup secured to a shaft which passes vertically through its center and on which the cup is free to turn. When the air current is directed against the vane, the floating cup turns in proportion to the strength of the current, which in turn is in proportion to the speed of the car.

Principle of Condenser Explained—Stops Sparking

Saves Wear on Breaker Points and Conserves Electrical Energy

The object of the condenser is to prevent excessive sparking at the breaker points and thus conserve the electrical energy so that sparks of maximum intensity are delivered to the plugs. Without the condenser, when the breaker points separate the current continues flowing as is indicated by sparking at the moment of separation. This flow of current is wasted because the energy which produces the spark is already stored in the coils.

By the use of the condenser, however, this current is saved and given to the primary coil next time the breaker points close.

If sparking is permitted to continue the points of the breaker will soon be burned away.

A condenser consists of a number of conductors, which in this case are leaves of tinfoil, separated by paper, covered with paraffin. Paraffined paper is used usually, but mica or some other insulating material may be used. The alternate layers of tinfoil are connected together and the remaining layers connected also. The two terminals of the condenser are connected to the circuit.

In its action the condenser decreases the momentum of the current when the circuit has been broken by the attraction of the vibrator to the core. Due to inertia, the current in the primary coil tends to keep flowing after the circuit has been broken, and this tendency is overcome by the action of the condenser; that is, the condenser absorbs the current that wants to continue flowing after the circuit has been broken.

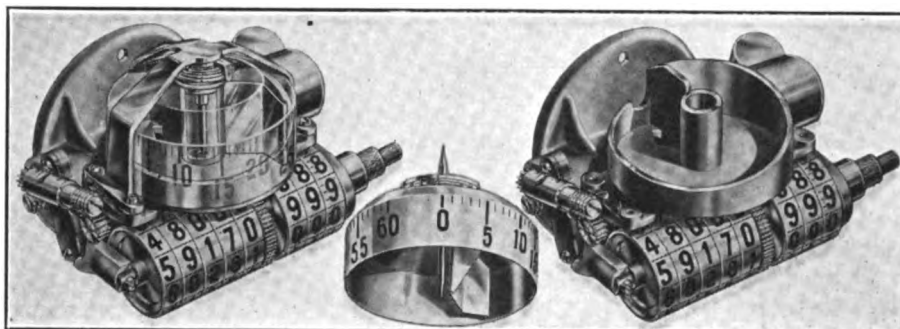


Fig. 2—Van Sicklen speedometer construction. The vane is seen in the cup in the center

Crane Simplex Six Chassis Sells for \$5000

Price a Secondary Consideration, But Car Is Guaranteed for Life—Has $4\frac{3}{8} \times 6\frac{1}{4}$ Unit 6-Cylinder Power Plant and 4-Speed Gearset

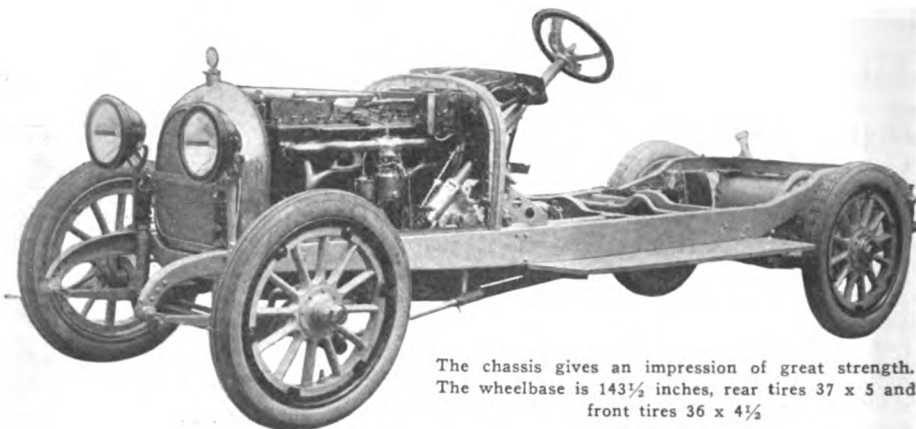
IN bringing out the Crane model Simplex, which now is being actively marketed, the Simplex Motor Car Co., New Brunswick, N. J., left the consideration of price until the last; the car was designed and constructed in the best possible manner, guaranteed for life, as long as it remained in the hands of the original purchaser, and the price fixed at \$5,000 for the chassis only. The machine is big and substantial and it has been evolved primarily to suit the tastes of those who want and can afford practically built-to-order cars.

The subject of material has been given much attention and details have been worked out carefully.

The power plant is a unit of six cylinders, disk clutch and four-speed gearset on a three-point suspension. The fly-wheel housing has two of the supports in a unit with it, and a third point is at the center of the cross member at the front of the radiator. The cylinders are cast in two blocks with heads integral and both exhaust and intake on the left side. It has been made a special point to keep the valves free and clear by making them the only external part of the motor on that side; all the auxiliaries, such as power tire pump, generator, magneto and starting motor are on the right.

The motor develops in excess of 100 horsepower at from 1,800 to 2,000 r. p. m. The valves are $1\frac{3}{4}$ inch diameter in the clear and the design throughout is not one which would imply an extremely high-speed motor but rather one of medium speeds. The gear reduction at the rear axle on the standard models is 3 to 1 and the motor has been found powerful enough to handle cars weighing in the neighborhood of 5,000 pounds on all ordinary grades.

One of the features of the motor is the rigidity of the crankshaft, which is carried on three bearings $2\frac{3}{4}$ inches in diameter; both main and crankpin bearings are lined with white metal in bronze shells. The caps for the main bearings are steel forgings, held by heavy bolts which pass entirely through the crankcase. The connecting rods are machined on all sides for lightness and not only are balanced as regards weight but the center of gravity of each is determined carefully and precautions taken to have



The chassis gives an impression of great strength. The wheelbase is $143\frac{1}{2}$ inches, rear tires 37×5 and front tires $36 \times 4\frac{1}{2}$

SIMPLEX CHASSIS SPECIFICATIONS

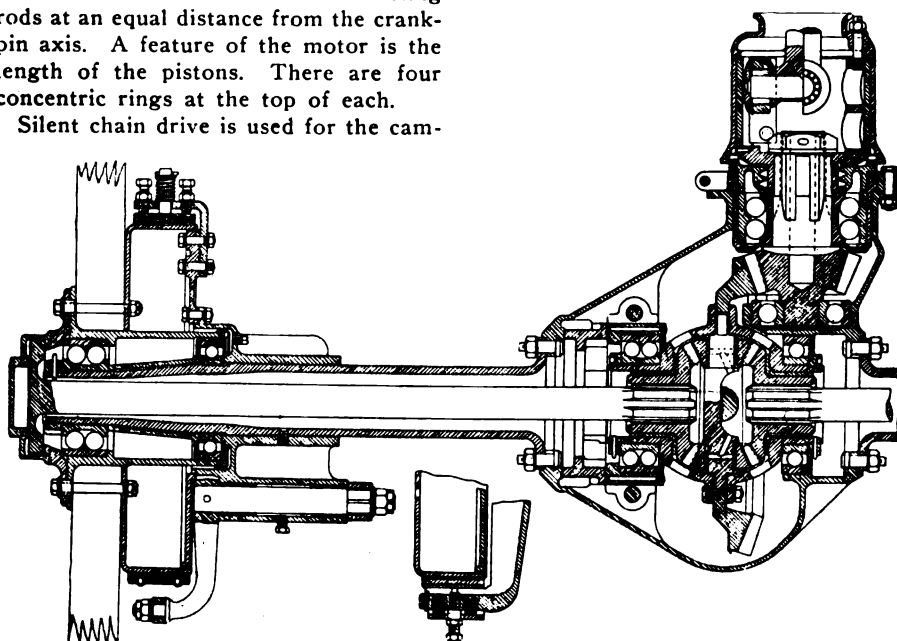
Price, chassis.....	\$5,000
Make of motor.....	Simplex
Number of cylinders.....	Six
Shape.....	L-head
How cast.....	Threes
Bore.....	$4\frac{3}{8}$
Stroke.....	$6\frac{1}{4}$
S. A. E. rating.....	45.9
Ignition.....	Magneto
Starting-lighting.....	Rushmore
Carbureter.....	Newcomb
Clutch.....	Single disk
Gearset.....	4-speed
Wheelbase.....	$143\frac{1}{2}$
Front tires.....	$36 \times 4\frac{1}{2}$
Rear tires.....	37×5
Wheels.....	Wood
Steering.....	Left
Control.....	Center
Type rear axle.....	Floating

the centers of each set of connecting rods at an equal distance from the crankpin axis. A feature of the motor is the length of the pistons. There are four concentric rings at the top of each.

Silent chain drive is used for the cam-

shaft, which is carried on three large bronze lined bearings so arranged as to allow the removal of the camshaft through the front of the case. The cams, which are integral with the shaft, are of the tangent type and work against followers which provide the equivalent of a 4-inch roller follower, although they are solid. These lifters combine the advantages of the solid lifter with that of the roller type and allow a steep cam which at the same time is not unduly noisy.

Oiling is by pressure feed. A gear pump operated from the camshaft takes oil from a reservoir in the lower half of the crankcase and sends it to a distributor on the left side of the crankcase. The distributor has a large strainer and an overflow valve which acts as a bypass pressure regulator, keeping about 10 pounds pressure on the system at all but low engine speeds. There are three leads from the distributor, each one going to a main bearing. In addition there is a smaller lead which carries oil to the cam-



The rear axle has a cast steel central housing and is fitted with ball bearings throughout, double-row for wheels, differential and pinion

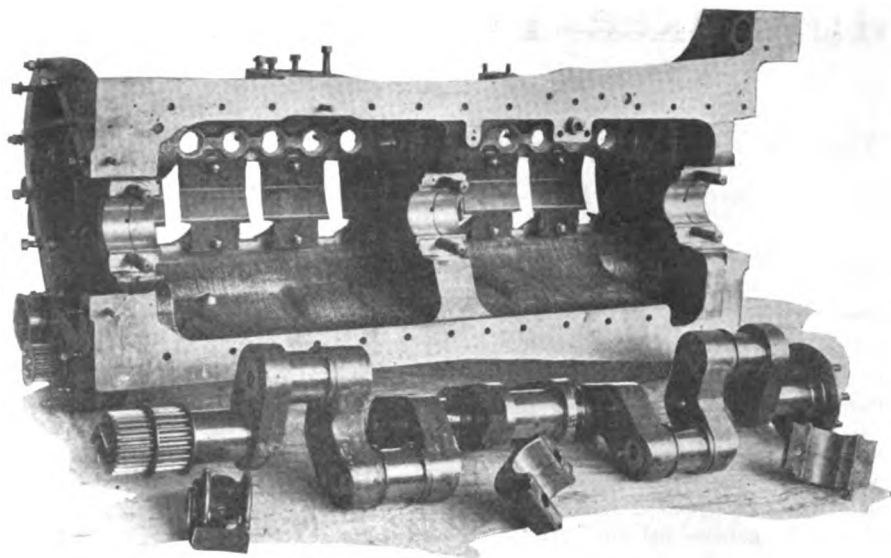
shaft chain. An independent lead passes to the cowl board and operates a pressure gauge. From the main bearings the oil goes to four large holes drilled in the crankshaft and passes through the crank cheeks whence it is thrown by centrifugal force to the pin. There is no oil lead up the connecting rod, as sufficient oil has been found to be thrown upwards from the cranks.

To cut down back pressure due to overlapping explosions a twin exhaust system is used, each block of cylinders exhausting into a separate manifold. The intake is quite compact, and both the pipe itself and the carbureter, which is a Newcomb modified slightly to conform with Crane requirements, are waterjacketed.

One saw-steel disk is used in the clutch, which is built into the flywheel casting. This disk is carried on a splined shaft leading to the gearbox and is mounted between two Multibestos rings, one riveted to the flywheel and the other to a heavy ring which forms the driven member and is pressed against the disk by twelve spiral springs. Since the clutch is kept in an oily condition it is necessary, in order to maintain a positive drive without slip, to have unusually strong springs, and to accommodate these and at the same time render it easy for the driver to operate the clutch, care is taken to provide a strong leverage in the pedal arrangement.

The countershaft of the four-speed gearset is below the main shaft and both are mounted on annular ball bearings. The reverse idler is fitted with a bronze bushing and runs on a stationary shaft of large diameter. Center control is used and to provide the utmost simplicity the gearshifter gate is mounted directly upon the gearcase, bringing the shifter lever and the emergency brake lever in the center of the car. Heavy oil is used in the gearbox and there is an oilproof housing between the gearset and the clutch to prevent leakage.

Hotchkiss final drive is employed in connection with a floating axle; all the



Unusual size is a feature of the crankshaft, which is $2\frac{3}{4}$ inches in diameter at the three main bearings and is drilled for lubricating oil

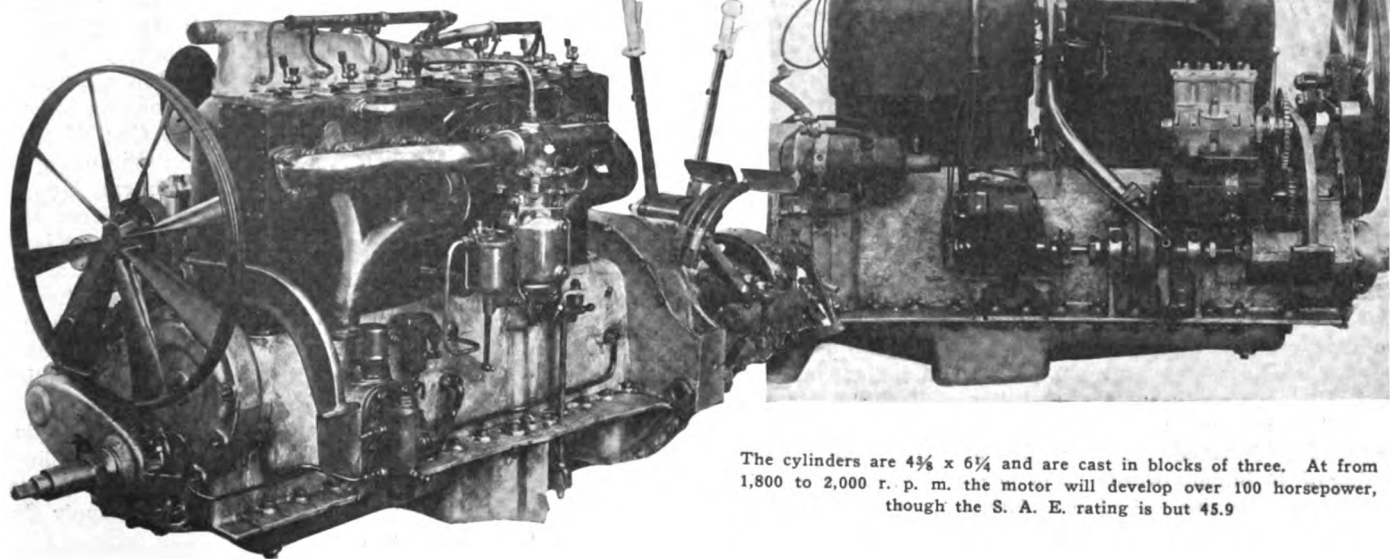
load is borne on the axle tubes. The cast steel central housing has an exceptionally large removable cover over the gears, which can be removed through this opening. The differential has four pinions and is carried on annular ball bearings. The bearing arrangement at the outside end of the axle tubes is so arranged by turning the hub inward that the axle is considerably shortened, giving a saving of weight and also an increase in rigidity. The wheel is carried on a double row ball bearing mounted directly on the center line of the hub and a single row bearing is located at the inner side.

The emergency brake is on the rear wheels; adjustment is provided by a nut at each wheel. The service brake is mounted on the propeller shaft.

Starting and lighting is by the Rushmore system and for ignition a high-

tension dual outfit is supplied. Yale locks are supplied on each side of the hood and the cowl board is fastened to the dash and is independent of the body and cowl. The instruments on the cowl board include a speedometer, oil and gasoline pressure gauges, ammeter, gauge lamp, hand pressure pump, lighting switches, ignition coils, carbureter control, voltmeter and clock.

BAYONNE, N. J., August 30—The entire plant in this city of the Crane Motor Car Co., has been purchased by the Car Lighting & Power Co. The plant will be used by the Clothel Co., the subsidiary of the Car Lighting & Power Co., which manufactures apparatus for refrigeration. The Crane company, which manufactures the Simplex car, has transferred its operations to New Brunswick, N. J.



The cylinders are $4\frac{3}{8} \times 6\frac{1}{4}$ and are cast in blocks of three. At from 1,800 to 2,000 r. p. m. the motor will develop over 100 horsepower, though the S. A. E. rating is but 45.9

Milwaukee Tour Boosts Trade

Dealers' Association Promotes 650-Mile Drive and Advertises State Fair Show—Expense Offset by Business Closed En Route

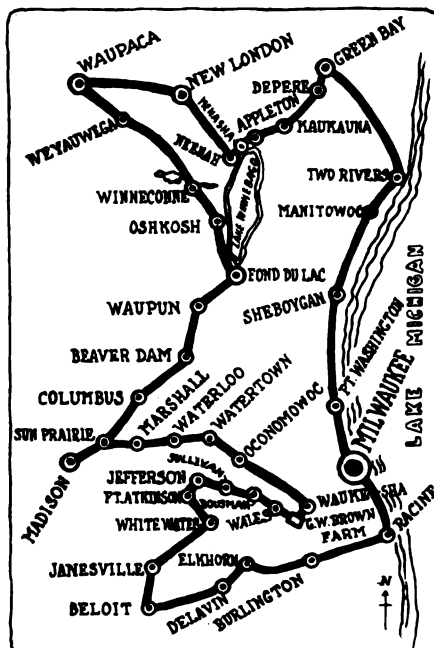
MILWAUKEE, August 28—Approximately 20 per cent of the population of Wisconsin—2,850,000—were placed directly in touch with the 1916 models of the leading motor car manufacturers of America, and about 50 per cent were informed of the greatest state fair ever held in Wisconsin by the mammoth booster tour undertaken by the Milwaukee Automobile Dealers, Inc., from August 23 to 27, inclusive, over a route of more than 650 miles, covering the richest and most productive territory of Wisconsin.

Since 1910 there has been an annual state reliability tour; this year the promoter of these tours, the Wisconsin State Automobile Association, retired temporarily and the dealers found themselves without a means of awakening interest in the new models during the mid-summer season such as the state tours have furnished. Then, too, the M. A. D. some time ago decided to conduct a real show in connection with the annual state fair at Milwaukee, and this event needed wide advertising. There has always been a so-called motor show at the state fair, but the exhibits were mixed up with all kinds of farm machinery, traction engines, etc., and similar equipment, all of which was simply regarded as part of the state fair, and little more.

So the association fell upon the idea of conducting a grand tour of the more populated and moneyed sections of the state, modeled along the lines of the famous Wisconsin reliability, but without the reliability feature. Accordingly, every dealer who is a member of the association entered one or more cars, and last week the affair was pulled off with a success that not even the most sanguine dreamed of. The State of Wisconsin could never have been stimulated to so much interest and activity without this tour.

The acknowledged reason for the tour was to advertise the state fair. More especially it served to advertise the motor show at the fair. Four weeks before the date set for the beginning of the run a pathfinder was sent out by the M. A. D., loaded with boosters and literature. The pathfinder spent six days on the road and paved the way for the coming of the big motorcade. The newspapers in every town visited were full of tour news.

Last April the M. A. D., recognizing the need of an immediate stimulant of retail buying, conducted a progressive show in Milwaukee, and the result was probably the greatest retail buying movement in the history of the motor car business in Milwaukee. The same is expected to be true of the state fair show, which will be held from September 13 to 17. Only this show will have a wider application than the progressive



Route of the tour of the Milwaukee Automobile Dealers, Inc., which lasted a week and covered 650 miles

show, as it will be both a wholesale and retail proposition and attract dealers and prospects from every part of the state.

The tour which advertised the fair show and the state fair itself started from Milwaukee Monday morning, August 23. The pathfinder, an Overland, with W. W. Rowland at the wheel, left an hour before 8 o'clock, at which time the pacemaker, a Willys-Knight, manned by George W. Browne, state agent, was sent away. The entrants followed 15 minutes later, at 30-second intervals. Each was numbered, and the procession originally formed out of Milwaukee was maintained throughout the 5-day run, excepting when tire trouble caused some car to be delayed.

The schedule was maintained except-

ing in a few instances when bad roads slowed up the cars or the local interest was so great that it would have been a crime to leave the crowd without a fair chance to see all of the cars and inspect them thoroughly.

Not any considerable effort was expended in the direction of making sales or closing agency contracts. That will be done at the state fair. The tour was more of an acquaintanceship affair, for the purpose of getting everybody interested. Nevertheless, state agents report that their tour expense was justified many times over by the actual business done at this psychological moment.

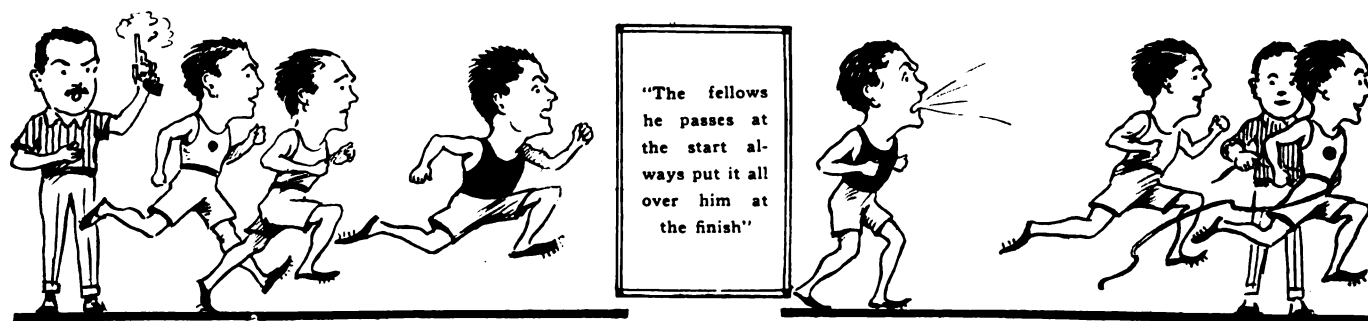
Whenever the tour came to a city of size it halted for 15 to 30 minutes so the crowds could look over the cars. Noon stops were extended to one hour. The schedule of the run was rather fast, about 22 m. p. h., but the frequent stops provided breathing spells. Mayors and other city officials were usually on hand in gala attire to extend a welcome to the tourists.

The state fair show will be No. 3 for Milwaukee. The first was held in the Auditorium in January. The second, the progressive show, was held late in April. The third will be held September 13 to 17. Each serves a distinct purpose. Each comes during a season when it pays to concentrate interest and start a buying movement. The results of each are so good that it is the purpose of the M. A. D. to keep right on giving three shows a year.

Next January there will again be held a grand winter show in the Auditorium; in April the progressive show will be repeated, and next August the state fair exposition will again be advertised by a tour such as the highly satisfactory run last week.

More than 25 cars were in the tour, the starters being as follows:

Haynes, Diener-Nelson Co.; Franklin, Sanger Automobile Co.; Regal, Regal Motor Co.; Chandler, Schreiber-Boorse Motor Co.; Overland, George W. Browne, Automobiles, Inc.; Willys - Knight, George W. Browne; Hudson, Jesse A. Smith Auto Co.; Studebaker, John C. Wolleager Co.; Cadillac, Jonas Automobile Co.; Buick, Buick Motor Co.; Jeffery, Reeke-Osmond Motor Car Co.; Mitchell, Mitchell Automobile Co.; Winton, Winton Motor Car Co.; Chalmers, Hoppe-Hatter Motor Co.; Chevrolet, Front Motor Co.; Ford, Ford Motor Co.; Kissel, Kissel-Kar Co.; Dodge, Edwards Motor Car Co.; Paige, R. D. Rockstead; Saxon, R. D. Rockstead; Stearns-Knight, Edgar F. Samber Co.; Pullman, Pullman Automobile Co.; Briscoe, Argo and Hollier, James W. Menhall, Beloit, Wis. In addition, there were four cars representing accessories, including the Adco shock absorber, Rayfield carbureter, Johns-Manville products and Auto Supply Co., Milwaukee.



Enthusiasm—Temporary and Permanent

Doyno Discourses on the Kind of Push That Won't Even Get a Man to the Hill-top, Much Less Over It

By Ray W. Sherman

TWO and two make four. The arithmetic insists upon it, and when it comes to dollars, marbles, sticks of wood or any such inanimate things no one ever has been able to prove the contrary. But when Reilly was made one of a committee of four, the members of the Callawassa Motor Trades Association always jokingly called it a committee of five.

And it was not a Jekyll and Hyde combination. It was all Jekyll and no Hyde. This time it was up to Reilly, Lou Brackett, Ben Doyno and Bob Finch to investigate the advisability of holding the annual show in the fall instead of in the winter.

They had canvassed the members of the association by letter and by telephone and were nearly ready to report. At one of their many meetings they were to eat and talk that day at noon at Pierre's. Pierre was regarded as an honorary member of the association.

Late—For a Good Reason

Doyno and Brackett sat at their little corner table waiting for Reilly. This individual was just getting a man's money and could not afford to be on time, as he later explained.

Finch was not in the party and was not expected. He had not been very much present during recent sessions of the committee and his value as a worker had dwindled perceptibly. He always explained when taken to task that his business of selling the Colt car to the medium-priced citizens of Callawassa was growing so fast he really couldn't get away for a committee meeting. He had to eat and why he couldn't eat with the committee they couldn't understand.

"Wonder if Reilly'll be down today," remarked Brackett, as he pulled out his watch. He might have looked at Pierre's clock had he wished to, but, like every

other man, when he thought of time he always pulled out his watch, and after he had put it back had no more idea of what time it was than if he had no watch at all.

"Oh, sure! He'll be here all right!" asserted the supplyman. "If he were not going to be here we would have heard from him before this."

"The old shiney-top is pretty much on the job, isn't he?"

"He Is One Hard Worker"

"He sure is." Doyno leaned back, put both hands on the table and made this reply in measured accents and an air of finality. "You've got to give him credit for that. He is one hard worker. His harness is all tugs and no breeching."

"I thought Finch was going to make a good committee member, but for some reason or other he has petered out," bewailed the Macon dealer.

"I had high hopes of him, too," replied Doyno. "He certainly did start out well. I never saw a man who had more enthusiasm."

"Enthusiasm, yes, and that's about all," was Brackett's sarcastic comment. "If he was a little less enthusiastic and worked a little harder he would be a lot more useful to himself—and to us."

"I guess he hasn't learned to harness his enthusiasm," replied Doyno. "It runs away with him. It's a liability instead of an asset."

Always Starting, Never Finishes

"Something like that." Brackett twirled and twisted a salt cellar.

"Bob always was like that," added the supply dealer. "He doesn't seem to be able to grow up and get over his boyish exuberance. He is always bubbling and boiling over something, but he never finishes anything. He has started more things than any other living man, and he

has left more things unfinished than any other man living or dead.

"He is one of these fellows who start off at the beginning of the race and run themselves out. He never gets his second wind and shows up at the tape. The fellows he passes at the start always put it all over him at the finish. That's the way he started in on this committee work. At the meeting when the question came up and some of the members had a few things to say on the question Bob talked more enthusiastically than any of the others. He orated nicely, almost frothed at the mouth, and he seemed so interested in the question that the logical thing to do was to put him on the committee. I guess Bob rather wanted to be on the committee.

"Then he came to the first few meetings. He started in well to work with us, but when it became a question of plain, plugging work his interest began to wane. He quit coming to meetings. He as good as quit the committee. His enthusiasm disappeared entirely."

Wants to Be In the Glory

"I bet he'll be on deck when we report," said Brackett.

"Oh sure! He'll want to be, anyway," laughed Doyno. "When we get into the meeting and all the boys are there and it comes time for us to hold the lime-light a few minutes by making our report, Bob will want to be right there in the glory row. But I don't see how he can conscientiously step in then after having thrown us down all the way through."

"But I presume he just can't help getting up and making a speech of some kind. It's in his system," answered Brackett with a smile.

"I suppose we'll have to let him. I don't see how we can stop him," rejoined Doyno. "But I'll never serve on another committee with him," he asserted

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Repairing and Adjusting

Care and Maintenance of Stewart Vacuum System

Simple Tests to Show Where Difficulty Lies—Directions for Starting When Tank Is Empty

The principle of operation of the Stewart vacuum tank is well known, but there are many points concerning the care and maintenance that are not so well understood and these are described below.

The air vent allows an atmospheric condition to be maintained in the lower chamber, and also serves to prevent an overflow of gasoline in descending steep grades. If once in a long while a small amount of gasoline escapes no harm will be done and no adjustment is needed.

However, if the vent tube overflows regularly, the air hole in main gasoline tank filler cap may be too small or stopped up. Enlarge hole to $\frac{1}{8}$ inch diameter. If pressure system was displaced by vacuum feed, the pressure system may not have been disconnected. There must be no pressure in the main gasoline tank. Vacuum tank may be too close to the hot motor, in which case set tank back an inch or so. Vacuum tank may not be installed quite high enough above carbureter. Bottom of tank should be 3 inches above carbureter.

If faulty feed is traced to the vacuum system the float may have developed a leak. This allows gasoline to be drawn into manifold, which in turn will choke down the motor. In taking out the float and repairing it, care must be exercised not to bend the float guide rod. If the rod is bent it will strike against the guide and retard the float, producing the same effect as a leaky float and allowing gasoline to enter the manifold. The flapper valve may be out of commission, a small particle of dirt getting under the flapper valve might prevent it from seating absolutely air-tight and thereby render the tank inoperative.

In order to determine whether or not the flapper valve is out of commission first plug up the air vent, then detach tubing from the bottom of the tank to the carbureter. Start the motor and apply a finger to this opening. If suction is felt continuously it is evident that there is a leak in the connection between the tank and the main gasoline supply, or else the flapper valve is being held off its seat and is letting air into the tank instead of drawing gasoline. In many cases this troublesome condition of the flapper valve can be remedied by merely tapping the side of the tank, thus shak-

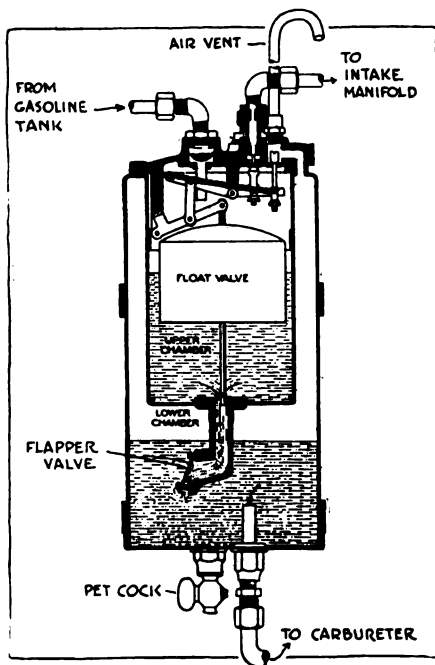


Fig. 1—Section through Stewart vacuum tank

ing loose the particle of dirt or lint which has clogged the valve. Manifold connection may be loose, allowing air to be drawn into manifold. Tubing may have become stopped up. Gasoline strainer may be clogged, preventing gasoline from getting into tank. Screen may be easily cleaned by unfastening connection at elbow. If tank should ever fail to operate examine strainer FIRST.

To fill the tank, should it ever become entirely empty, close the engine throttle and turn the engine over a few revolutions. If the tank has been allowed to stand empty for a considerable time and it does not easily fill when the engine is turned over, this may be caused by dirt or sediment being under the flapper valve. Or perhaps the valves are dry. Removing the plug in the top and squirting a little gasoline into the tank will wash the dirt from this valve, and also wet the valves, and cause the tank to work immediately. This flapper valve sometimes gets a black carbon pitting on it, which may tend to hold it from being sucked tight on its seat. In this case the valve should be scraped with a knife.

Sulphated Connections Stop Motor

It occasionally happens that a starting system refuses to work for no apparent cause. The generator charges the battery up to 1,250, lights will light and the starting motor tests out O. K., but it still refuses to turn the engine over.

I have found this due to sulphating of battery connections or oxidizing of terminals. This is sometimes difficult to find, as they all seem tight and look apparently in good shape and one would naturally suppose as the generator charges the batteries the current would flow in the opposite direction.

I have found that as a rule the generator will increase its voltage enough to overcome this resistance of poor connections and show charge and the lights will work as they draw only a small amount of current and a small drop in voltage will not always be noticed, but when 150 to 200 amperes at 6 volts are drawn from a battery all connections have to be absolutely perfect.

When poor battery connections are located they should be thoroughly cleaned with an alkaline solution, dried and scraped, tightened up and covered with vaseline to prevent future sulphating.—M. R. Potter, foreman, Wm. Petry, Hudson, N. Y.

Armature Trouble Located by Testing Torque by Hand Jerky Action Will Show Burned Coil or Broken Connection—Defective Armature Requires Factory Repairs

If there seems to be a defect in the armature of the starting motor, disconnect the starter drive mechanism and allow the motor to run free with the armature shaft, or pulley, grasped in the hand, acting as a brake. If the torque is even the windings are all right, but if not there is a burnt coil or broken connection. If the armature should stop at a certain point there is a broken connection. If this is the case, however, the commutator bars between those, to which the two ends of the coil connects, will be burned. Sometimes the broken connection occurs at the point where the coil is soldered to the commutator bar, in which case the remedy is to resolder. For all other repairs the armature should be returned to the manufacturer, for it requires work that is beyond the ordinary capabilities.

Similarly if the armature winding of the generator is suspected to have defects, it should be operated as a motor by removing the driving chain or gear and holding the cut-out contacts closed. The armature should rotate in the same direction as when it runs as a generator and if it does not, connections are reversed somewhere in the field. Test the armature same as above.

Bad Contact Causes Brush Trouble

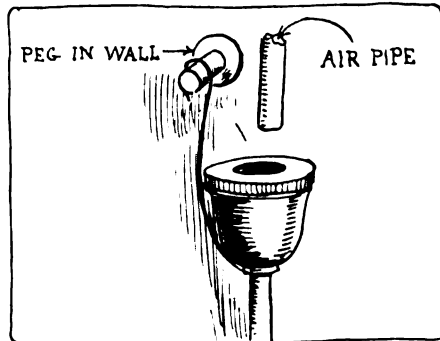
Where the brush spring is used only for supplying tension and a separate wire conducts the current, a loosening of the contact may allow part of the current to pass through the spring, heating it and thus drawing its temper and preventing the brush from making good contact.

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Simple Air Hose Connection (No. 187)

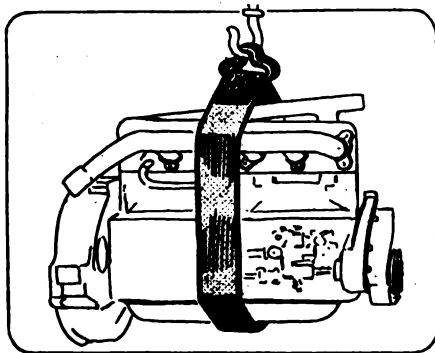
Probably the simplest way to attach an air hose to a wall or post connection is by means of an acorn coupling on the hose, as shown. The coupling is held in place by a wire hook which passes over a small peg. The advantage of this scheme is that only one air hose is required for almost any number of air outlets.—Wm. Folberth, Folberth Auto Specialty Co., Cleveland, O.



(No. 187)
Wall connection for air hose

Sling for Lifting Motors (No. 188)

A sling for lifting a motor with the aid of a crane can be made out of a piece of belting. Ordinary two-ply belting 6 inches wide and about 6 feet long

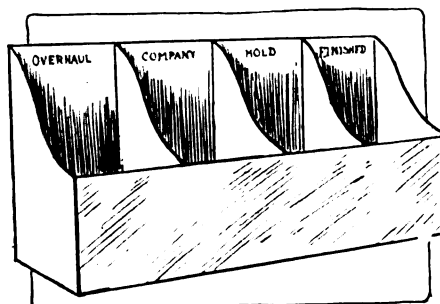


(No. 188)
Lifting motor with strap sling

will answer the purpose. The ends are provided with eyes, made out of heavy iron bar stock, which engage the crane hook. The eyes are attached to the belt extremities by heavy galvanized iron strips bent double and riveted to the belt. Such a sling will easily support the average motor.—T. M. Lewis, Overland Cleveland Sales Co., Cleveland, O.

Systematizing Repair Orders (No. 189)

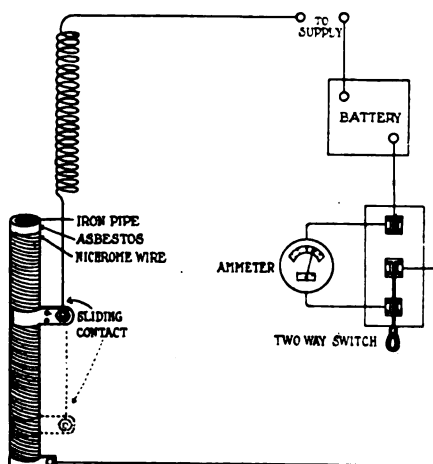
Repair orders on the foreman's desk should be segregated according to the condition and character of the work and should be kept in a series of pockets on the back of the desk, as illustrated. Complete overhauling jobs should be separated from the short jobs; company work, such as free service, should have a compartment by itself; finished jobs should be segregated so that the foreman may know at a glance what work is ready for delivery. Jobs that are to be held should also be given a distinct compartment, and these include such work as is held up for painting, new parts and the like.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.



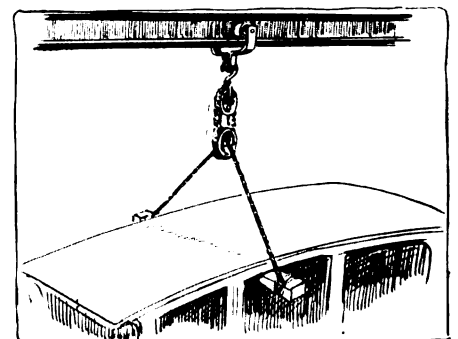
(No. 189)
Containing case for repair orders

Homemade Battery Rheostat (No. 190)

A rheostat for use in battery work can easily be made out of a piece of 1½-inch pipe, some sheet asbestos and some nichrome wire. The diagram of connections is clearly shown herewith. The sheet asbestos is wrapped around the iron pipe as an insulator and then the wire is wound tightly around it. Wire .036 inches in diameter will be found satisfactory. There is a sliding metal contact which determines the length of wire in circuit. For example, if the contact is half-way down, then the lower half of the coil is in circuit; the further the contact is raised the more resistance in circuit, and vice versa. The wire connecting with the contact piece is coiled so that it may stretch as the contact piece is pulled down.—Wm. Folberth, Folberth Auto Specialty Co., Cleveland, O.



(No. 190)
Rheostat and wiring connections



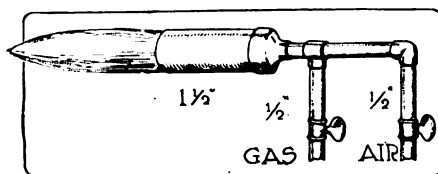
(No. 191)
Lifting body from a limousine

Removing a Closed Car Body (No. 191)

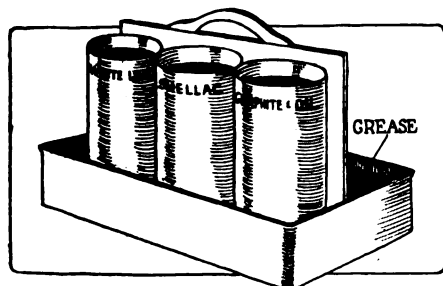
The easiest method of removing a body is by means of a traveling crane; after the body is taken off, the crane carries it away to the place where it is stored. In lifting a closed body the simplest way to attach the block and tackle is to a 2 x 4 beam placed under the roof and with its ends sticking out of the opened rear doors, as shown. There is no danger of injuring the body by this method and it requires minimum time. In removing a touring body the block and tackle should be attached to the top irons. By this method a limousine body may be taken off and a touring body put in its place by two men in 8 hours.—R. R. Sharp, Packard Cleveland Motor Co., Cleveland, O.

Blow Torch from Pipe Fittings (No. 192)

For heating large work that cannot be put into a forge the big blow torch herewith is a great convenience and a time



(No. 192)
Blow torch made from pipe fittings



(No. 194)

Tin containers for garage necessities

saver. It is constructed of standard pipe fittings and can be made in a short time at small expense. Such a torch is especially useful in heating bent spring horns, frames, etc.—T. M. Lewis, Overland Cleveland Sales Co., Cleveland, O.

Good Light for Car Washing

(No. 193)

Careful and thorough car washing requires that the light be good, which means, virtually, that the lighting arrangement must be adjustable. Illustrated herewith is a method that has been used with success. The lights are arranged on a wooden bar about 10 feet long and 8 inches wide, painted white to act as a reflector. The bar is supported on two arms which are fastened to the ceiling beams with a single carriage bolt through arm and beam, making a hinge. The lights can be let down when in use and pulled up out of the way when not required.—Maltbie Garage, Waterbury, Conn.

Oil and Graphite Container

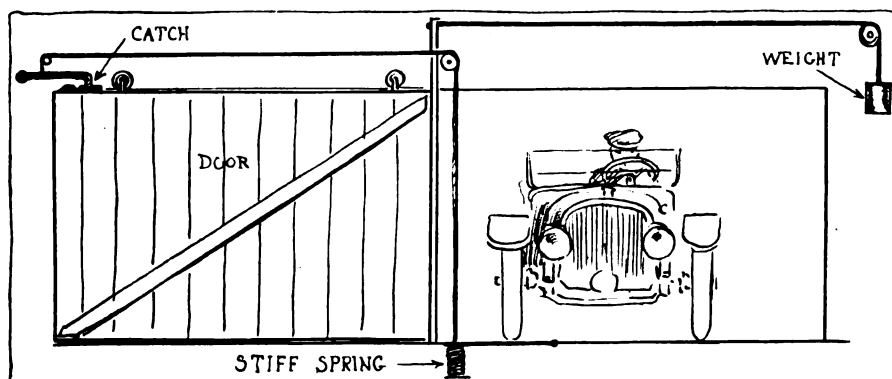
(No. 194)

White lead, grease, graphite and oil and shellac are four things that the repairman should always have within convenient reach and they are most conveniently carried in a combination container, as shown, which consists of three cans for white lead, shellac and graphite and oil and a large compartment for grease. The container is made of tin.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

Self-closing Garage Door

(No. 195)

In order to keep unwelcome visitors out of the repairshop it is necessary to



(No. 195)

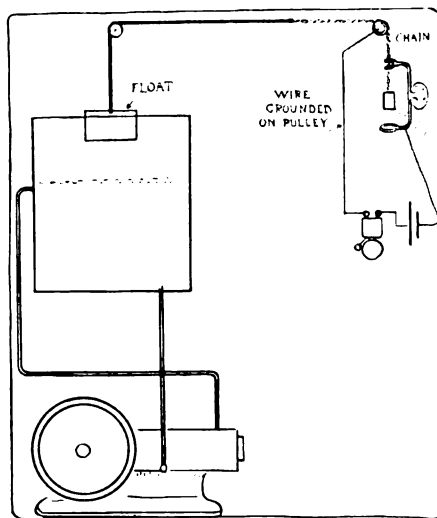
Garage door that closes itself when car has passed through

have the doors closed at all times, but there is one big difficulty—when a car is driven out the door is left open until somebody thinks to close it. A door that shuts automatically when a car leaves can be made very simply. The door is closed by a weight in the ordinary fashion and when opened the full width a hook automatically locks it in this position. When a car passes through the door way this hook is disengaged by the front and rear wheels passing over a spring plate in the floor. Each time a wheel runs over this plate it is depressed and by means of a cable and pulleys this releases the hook. When the hook is raised the first time the door only moves about an inch and it is not until the second time that the door is permitted to roll closed. This feature prevents the door from closing on a car half-way out, and is accomplished by cutting two notches close together in the plate on the door which the hook engages.—T. M. Lewis, Overland Cleveland Sales Co., Cleveland, O.

Using Motor to Heat Water

(No. 196)

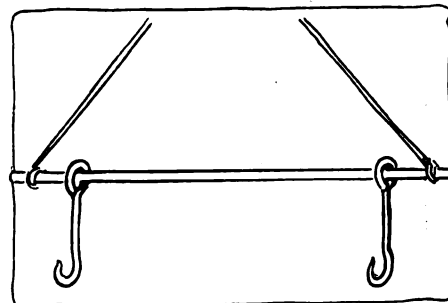
A stationary engine makes an excellent hot water heater, providing the cooling tank is not too large. There is only one



(No. 196)

Motor water heating system with alarm

objection and that is that in washing several cars, for example, the tank will be nearly emptied and the engine will overheat. To prevent this an automatic alarm may be installed with very little



(No. 197)

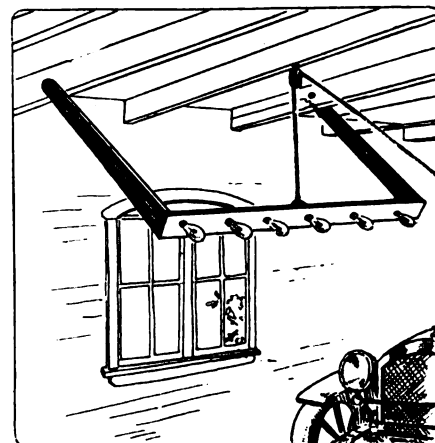
Hooks for lifting one end of a car

trouble. A float in the tank connects with a small metal weight by means of a light metal cable and two pulleys. At high and low positions in the tank this weight comes in contact with a metal bracket which completes a circuit and rings a bell. The wiring diagram is clearly indicated. The pulley over which the wire passes is electrically connected to the bell, which is connected to one side of the single dry cell. The other wire runs to the bracket.—Wm. Folberth, Folberth Auto Specialty Co., Cleveland.

Lifter for One End of Car

(No. 197)

A crane attachment for lifting one end of a car is shown herewith. The two hooks which engage the frame ends are



(No. 183)

Adjustable lights for car washing

adjustable laterally so that any width of frame may be accommodated. With this device there is no tendency to spring the frame as the pull is always vertical.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.

Candy Jars for Small Parts

(No. 198)

Small parts are conveniently stored in candy jars, which may be purchased for 2 cents each. The parts are protected against dust and moisture and yet are easily seen.—R. R. Sharp, Packard Cleveland Motor Co., Cleveland, O.

Clean Stocks

Page 5

WIDE-AWAKE MERCHANDISING

CHANGED TACTICS AND LANDED SALE

Proposition to Take Demonstration as Favor Won

A certain salesman had made several calls on a man with whom he could not arrange an interview. Every time the salesman went to see him he would be told the man was "out" or busy or not interested; yet he knew this man was going to buy a car, for he had been seriously considering a rival make; in fact, from the man's attitude it appeared that he had made up his mind to buy one of these cars.

Finally the salesman decided that the only way to get to the prospect was to say he had nothing to sell, so without giving his name he managed to be ushered into the prospect's inner sanctum.

The prospect looked up after a while in surprise, and exclaimed, "What! You here?" The prospect kept on working, and meanwhile the salesman explained:

"I came to you today to do you a favor. I want you to take a ride in our car; to get in behind the wheel and drive it. That is all."

Apparently unimpressed, the prospect's cheerful rejoinder to this was, "Won't you go?" But the salesman replied that he would stay until he made an appointment for a demonstration.

After a pause the prospect said, "Do you want a job?" The offer was declined. This question indicated, however, that his persistency had made a favorable impression on the prospect so he ended the interview by saying that he would be at the prospect's house at 11 a. m. the following Sunday to give a demonstration.

No reply was forthcoming from the prospect, but the salesman was there, the demonstration was given and the contract signed by 11:30.

FRAME YOUR POSTERS

The good effect of posters and photographs in the showroom is often lost by improper mounting. They are tacked on the wall or pasted against the window. The ideal way is to frame them. At first glance this idea would seem to re-

quire the use of innumerable frames, but only two or three will be necessary if cardboard mats are used to fill the gap between the picture and the frame. The mats can be made by anyone.

TWO GARAGE RENTALS FROM EVERY SPACE

Garages in the downtown section of Cleveland are run under forced draft; nearly every car space is made to do double duty; by night it houses one car and by day another, and thus two rentals are obtained for the one space. Business men, shoppers and daytime visitors to the city store their cars in these garages during the day, and at night the cars of residents and tourists take up this space.

The charge for space varies according to the time, and the following scale of prices is typical, these being in vogue at the Euclid Square Garage, the largest in the city:

HOURLY STORAGE SERVICE

Any part of 5 hrs.	25c
5 hrs. to 10 hrs.	50c
10 hrs. to 15 hrs.	75c
15 hrs. to 24 hrs.	\$1.00

MONTHLY STORAGE

Day time	\$6.00
Night time	6.00
Day and night	10.00

WASHING AND POLISHING

Per Car	\$1.50
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SALESROOM TRIM MAY SPOIL EFFECT

Beautiful Buildings Spoiled by Cheap Showrooms

What dealer would take the agency for a \$5,000 car with a \$200 body on it? A manufacturer that would build such a machine would justly be called penny-wise and pound-foolish. It is unthinkable that any concern would ruin an expensive car by putting a very cheap body on it. Yet the Road Man has visited many showrooms that have been spoiled in a similar way.

Often a dealer will put up a fine building and then ruin it by economizing on the showroom. Cheap pine trim, unvarnished floors, undecorated walls are often to be found in a building costing many thousands of dollars.

If a \$20,000 building is worth while, then a proportionate amount should be spent on the showroom; it should not be skimmed. In fact, the appearance of the showroom is of even more importance than the building itself.

There is more reason for hiring an expert to decorate the interior than there is for having an architect to plan the exterior, but it is not often that the former is done.

INEXPENSIVE CARD DRAWS GASOLINE BUSINESS

STANDARD OIL CO.

GAS

STATION.

CONEY ISLAND GARAGE,

2862-64 - 8th STREET, CONEY ISLAND

and

PARK PLACE AND OCEAN PARKWAY,
BRIGHTON BEACH, N. Y.

BEST GRADES OF OILS.

This card, printed on cheap stock, is distributed into cars that are parked while their owners enjoy the amusements of New York's famous Coney Island. Many car owners are ignorant of the fact that gasoline is obtainable in the immediate vicinity. The card makes this known to them

Timepiece Service

When the Car Owner Asks Excessive Service Tell Him This Story

By Robert Foster

I bought a new watch recently, and since then I have often thought of the great difference between purchasing a timepiece and an automobile; yet there is no good reason for this difference.

Before acquiring the watch I examined the lines of the two best jewelers in town. The first place I stopped in I was shown a variety of models, the good points of each were explained, the backs unscrewed and the works exposed. I made a tentative selection, told the jeweler I was going to look around a little, and departed. At the second store my experience was much the same except that I finally found a watch that suited me better than any others I had seen. So without further parley I purchased it at the price the jeweler asked.

I did not try to beat him down because I knew that the price was fair; he had a reputation for selling quality goods at reasonable prices, and so I did not dispute him.

No Question of Trading

I did not ask to carry the watch around for a day or so, to see if it suited; I was satisfied with the short "demonstration" I had received that the watch was all right; furthermore, it was made by a reputable maker, so I really had a double guarantee.

Neither did I insist that the jeweler take my old watch in trade. It was a good watch, but a little out of date, large and clumsy. It was too much to carry around. If I had asked him to take my old watch I know he would have laughed at me, for the very idea was absurd. He had no interest in it; his business was selling new watches; he was not a "second" dealer. It was up to me to get rid of it, and I did, by selling it to a pawnbroker. Furthermore, I did not get what I thought it was worth, but hardly half that amount, but he said he could not give more and stay in business, and I guess he was right for he needed a new suit badly; he certainly did not look as though he was making too much money.

Service That Was Charged For

When I received my new watch it was in perfect condition, accurately regulated and adjusted. However, my love for machinery led me to try to improve the regulation, but not only did I make it worse but I bent the regulating arm. The jeweler fixed it in record time and charged me for it, as I expected he

would; it was my fault and I had a right to pay. But I wonder if I would have been as reasonable if I had spoiled my carburetor adjustment?

Later the dial came loose and pressed against the minute hand, thus stopping the watch. This trouble was remedied without charge, because the watch was defective and therefore it was up to the jeweler to fix it. This was merely service that was purchased with the watch.

PURCHASER'S ATTITUDE FOLLOWS SERVICE BOASTS

Editor Motor World:

I desire to refer to an article which appeared in your edition of the 4th inst., page 23, relating to Service.

This article ends with a question, which question usually appears in every article written regarding Service.

The most plausible answer to same is that in 90 per cent of the cases the attitude of the purchaser is established by the Service boasts and policies of the institution selling the car, further augmented by the promises made by salesmen making the sale.

Competitive Boasts the Trouble

When competitive boasts regarding Service and the tendency to outbid one another on used cars, taken in trade, is discontinued by the dealers, the automobile business will have taken a most progressive stride toward that business plane enjoyed by older institutions.

I should very much like to see your good paper comment on these two phases of the business.

Deeply appreciative of the attitude of your journal and the wonderful results you are obtaining among the dealers, I remain,

The Citizens Motor Car Co.,
F. E. Wilson.

Cincinnati, O.

ACCURATE ESTIMATE NECESSARY

"When a car requires repairing, an accurate estimate of when the work can be started and how long it will take should be made so that the owner may have the use of his car until that time and so that he will know just when it will be finished and be able to make plans accordingly. This is especially important when a man depends on his car to aid him in business."—F. A. Bryan, Bryan's Garage, Lima, O.

Sincerity in Selling Accessories

"Is there anything else?" Do your employees ask this question in a way that shows that they are sincerely trying to remind the customer of something he may have forgotten, or is it mumbled as a sort of formula which must needs accompany the purchase? The tone in which the question is asked may make or lose many sales.

AVERAGE PERSON IS BEST CUSTOMER

Don't Give a Rich Man Preference Because He's Rich

Some people think that because they have money they should receive first attention in the garage and repairshop, and some garagemen are weak enough to give in to them. It is bad policy to give preference to anyone just because he is richer than the average customer, because, after all, it is the average customer that is the bone and sinew of the business, and no garage can afford to run the risk of offending any customer just to give in to the unreasonable demands of some rich patron.

In repair work, for example, the rich man should await his turn, and not be placed ahead of someone with less money. Likewise the man that comes into the accessory store and buys a 5-cent nut should receive the same courteous treatment as the one who purchases two 37 x 5 casings.

Buying Cheap to Save Money

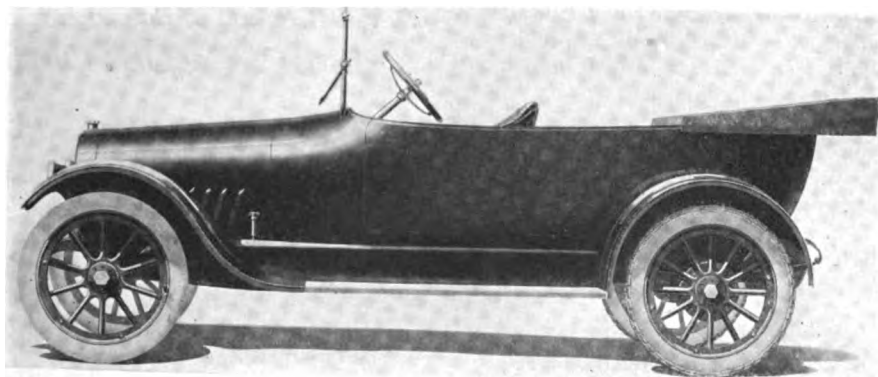
"Buying cheap goods to save money is just like stopping a clock to save time." The same may also be said of repair work. It is up to each dealer to show his customers the fallacy of this policy.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



Gray & Davis, Boston, has recently gotten out this very attractive counter display stand and is distributing it among dealers. Good display undoubtedly will stimulate sales of any article and it is the purpose of the device to help the dealer give this ammeter good display.



The Paterson 6-42 presents an exceptionally clean appearance; the body seats seven and convenience is a paramount feature

Paterson Six at \$985 is New Throughout

Exceptionally Roomy Body Seats Seven—Driving Effort Reduced to the Minimum—Four Continued Unchanged

THE W. A. Paterson Co., Flint, Mich., will continue its four-cylinder model practically unchanged for the 1916 season, the only alterations being in the body, which has lines more in accordance with modern streamline ideas. The new six, however, is an entirely original job at \$985. The body is a seven-passenger with ample internal space and excellent finish. One little detail of the equipment especially worthy of mention is the utilization of the left side front door pockets for tools most frequently needed. On lifting the flap of the door the most important tools are found, arranged each in a separate leather container so that any one required can be picked out in an instant.

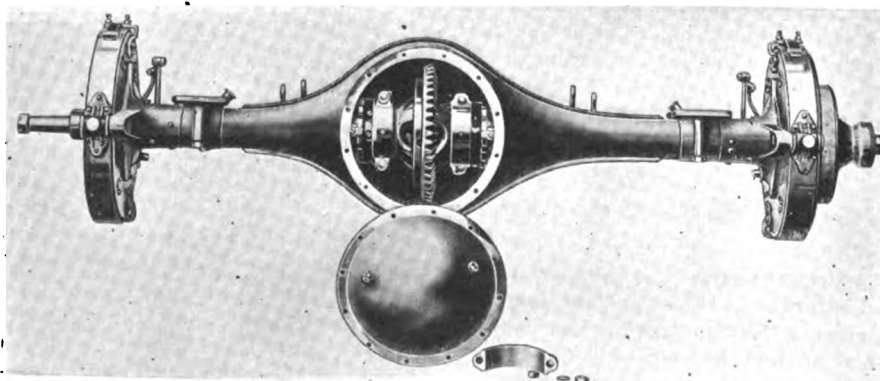
The motor has a piston displacement of 224 cubic inches and is the type of Continental with a detachable cylinder head and the crankcase cast integral with the cylinder block; it is known as the Continental light six. The engine is designed for high-speed operation, having its horsepower peak at about 2,200 r. p. m. and developing 35 horsepower at approximately 1,600 r. p. m. All the intake passages are integral, so the Stromberg carbureter can be bolted directly to the casting.

There are three main crankshaft bearings, each being supplied with pressure oil from the plunger pump, which is driven from the camshaft and located on the crankcase side. An oil lead also goes to the helical timing gears, and there are dip troughs for the connecting rods. To eliminate vibration at the high speeds at which the motor is meant to run, a large diameter has been chosen for the crankshaft, the main journals being 2½ inches. The left side of the engine is

absolutely clean save for the carbureter and oil filler, while the water pump and the generator are arranged on the right

DETAILS OF 1916 PATERSON

Price—Touring	\$985
Color	Black-blue
Make of motor.....	Continental
Number of cylinders.....	6
Shape	L
How cast	Block
Bore	3¾
Stroke	4½
S. A. E. horsepower.....	25.4
Carbureter	Stromberg
Clutch	Cone
Gearset	3-speed
Wheelbase	117
Tires	32 x 4
Steering	Left
Control	Center
Make of axles.....	Weston-Mott
Type rear axle.....	Floating



The accessibility of the chassis and motor is exemplified in this illustration of the axle. Differential and driving gear are easy to get at

side in such a manner as to interfere as little as possible with the valve accessibility.

The effort needed to release the clutch or to apply the service brake is small; so little, in fact, that a child could operate these controls. Ease of operation has been studied, so that the gear shift lever moves as easily as the clutch pedal proportionately.

From the gearbox there is a single jointed shaft with its one universal designed to take the torque stress. That is to say, the torque tube terminates at a bearing on the drive shaft just behind the universal, so the tube withstands the stress of torsion at the point where it is greatest (near the axle) and only transfers the stress to the drive shaft close up to the universal end where the stress is at its lowest.

For the rear axle a built-up construction is used, the differential and drive gears being mounted upon New Departure bearings while Hyatt roller bearings take care of the support of the wheels and the drive shafts. These shafts can be removed easily, and the differential taken out through the rear part of the housing without removing the axle from the springs.

The brake system is laid out thoughtfully and a notable point is the use of long equalizer bars which can be relied upon to apply a really equal pull to each brake arm. Rear springs are three-quarter elliptic and the drive is taken through their front portions. The steering is laid out with good, straight connecting links, and is quite irreversible by virtue of the Jacox worm and nut gear which is adjustable for the effects of wear.

In the body, width of seat is the outstanding characteristic, this being above the average, and the upholstery is deep both as to the seat cushions and the backs. The folding seats disappear into the rear of the front seats and are almost invisible when not in use.

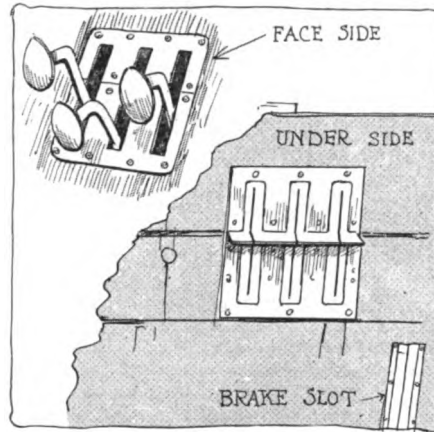
It is not quite certain at the time of writing which of two electrical systems will be employed, but in either case there will be two units, the generator having the ignition distributor integral.



ACCESSORIES & SUPPLIES :

KEROSENE BURNING FIREPOT

Clayton & Lambert Mfg. Co., Detroit. Kerosene is burned in this firepot, which is large enough to heat two large soldering irons and is suitable for melting soft metals, heating pipe for bending and similar work. The burner tip is made removable and is easily cleaned; the fuel does not reach the burner until it is hot, and when the fire is turned out the oil runs back to the tank and does not dry on the burner. Air pressure is furnished by a brass hand pump. Tank is of one piece of steel with all fittings welded to it. Unusual freedom from carbon is claimed.



Presto hot air stopper

sheets, as shown. The plates may be installed with a screw driver. Attachment is by a rubber cord and hook. The shield is ventilated, light weight and durable.

J-M NARCO TIRE CUT FILLER

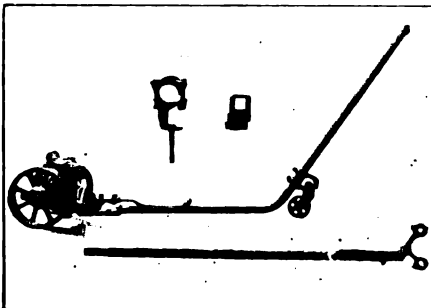
H. W. Johns-Manville Co., New York. PRICE, small tubes, 50 cents large tubes, \$1.

Cuts that would become enlarged if neglected may be filled with this compound, prolonging the life of the casing considerably, the makers state. The substance works into and becomes incorporated with the walls of the cut and will not come out. Containing tubes have tapered spouts.

JACK AND TOWING TRUCK

Rub-On Mfg. Co., Brayton street, Buffalo, N. Y. PRICE, \$35.

This jack is placed under the axle and its load is carried on two 10-inch wheels. The axle rests on a swivel plate which is adjustable to any height. A long handle allows the maneuvering



Jack and emergency towing truck

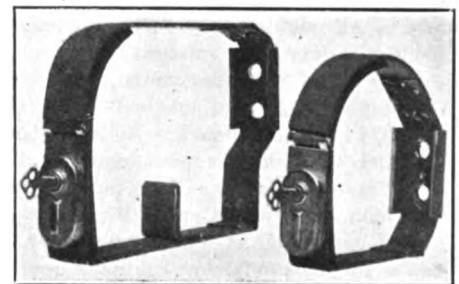


Frey dimmer eye-shields

TIRE LOCK FOR OVERLANDS

W. W. Sly Mfg. Co., Cleveland. New Era Spring & Specialty Co., Detroit, distributor. PRICE, single, \$1.50; double, \$1.75. DEALERS, 1 doz., 40 per cent; less than 1 doz., 33 1/3 per cent.

The lock takes the place of the upper strap which holds the tires. To attach



Single and double Overland tire locks

of the car in tight places with ease. When the device is used as a towing truck a straight tongue is substituted for the regular handle and a towing top and clamp take the place of the swivel plate and holds the axle firmly. Hyatt bearings are used in the wheel hubs.

FREY DIMMER EYE SHIELD

Frey Mfg. Co., 1514 Michigan boulevard, Chicago. PRICE, standard, 75 cents; extra large, \$1. Imitation leather case, 25 cents.

The upper half is of pyralin, a light, transparent substance, and is green or orange, for use against glare. The lower half is clear, light amber or dark amber, for ordinary vision. The edges are bound with soft rubber or silk chenille. At-



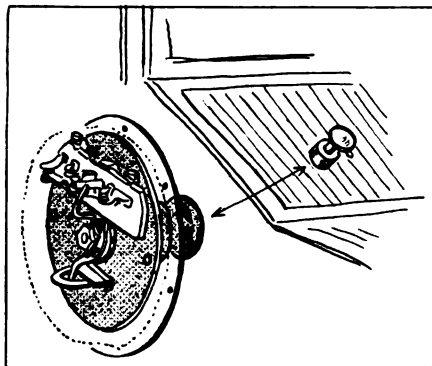
Lambert kerosene-burning firepot

the lock two cap screws which hold the bracket for the top strap are removed and the lock put in its place, using the same bolts. When the tire is in place the bolts cannot be removed. The locks are made in two types, single and double.

PRESTO CAR COOLER

Asch & Co., 1779 Broadway, New York. PRICE, \$1.75.

This device prevents warm air from coming up through the pedal and emergency brake slots in the floor boards. It consists of two plates, one for the pedals and the other for the brake lever. These plates have slots cut in them corresponding to those in the floor boards and these slots are closed by rubber



H-P-B foot-operated dimming switch

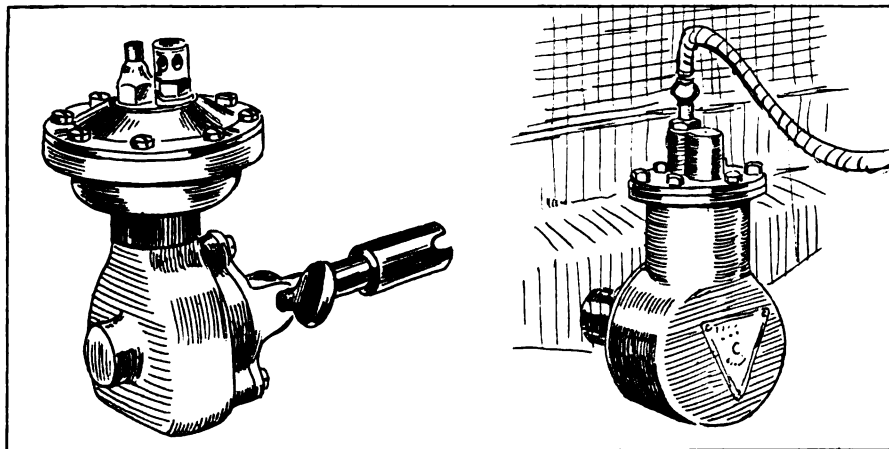
H-B-P KICK-OVER DIMMER

H. P. B. Electric Co., Inc., 500 Fifth avenue, New York. PRICE, \$2.

This is a dimming switch designed for installation on the dashboard so that it can be operated with the foot, obviating the necessity for taking the hands from the steering wheel. The lights may be dimmed by throwing them in series or by connecting a resistance in the circuit, the switch being adapted to either arrangement. Installation is a simple matter.

KELLOGG PUMPS ALMOST UN-CHANGED

Having developed its power-driven tire pumps to a point where radical changes are no longer required, the Kellogg Mfg. Co., Rochester, N. Y., states that the line will be continued for the coming season with no further alteration than the substitution of babbitt for the bronze formerly used in the bearings. The pumps are of all-metal construction, cylinders being of gray iron, pistons fitted with three ground soft steel rings, valves of the poppet type and lubrication by oil carried in the crankcase in sufficient quantity to make frequent renewal unnecessary. Fittings are furnished for attachment to standard cars. The regular model costs \$15, the Ford moled \$9.50 and a special model for Dodge, Chevrolet and Maxwell, \$10. Air hose and a pressure gauge are included with each pump.

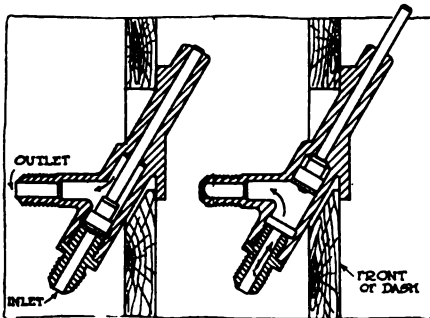


Left, Taylor diaphragm pump; right, Detroit piston pump. Both are designed to be driven from the front end of the crankshaft and to be carried in the tool box when not in use

LOCK-ALL LOCKS ALL CIRCUITS

H. P. B. Electric Co., Inc., 500 Fifth avenue, New York. PRICE, \$12.

All electrical circuits—ignition, starting-lighting and horn—are locked when the key in the circular casing is turned; or they can be set in any combination and locked there. A metal knob may be kicked over from one side to the other; in one position it cuts in the headlights and sidelights both, and in the other position sidelights only. Eight little but-



Morris oil tell-tale on dashboard

tons are employed to set the combinations. The switch is designed for dashboard installation.

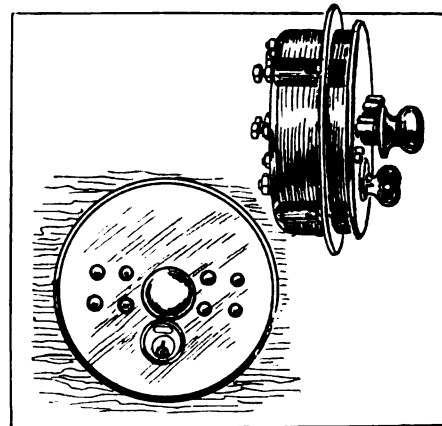
MORRIS DASH OIL TELL-TALE

George W. Morris, Racine, Wis., PRICE, \$2.

Used in connection with either a gear or plunger pump, this instrument indicates the amount of oil that is being passed through the system. A piston in the body of the instrument is connected with a rod which extends through the dash, its height being an index of the quantity of oil passing through. A leather washer prevents oil being forced past the piston and also acts as a cushion and a silencer. The flange by which the indicator is attached to the dash can be made of any diameter and placed at any desired angle. The finish is nickel.

TAYLOR DIRECT DRIVE PUMP

Taylor Mfg. Co., 30 Elmwood avenue, Detroit. PRICE, \$12.50.



Two views of H-P-B circuit lock

The Taylor is a diaphragm pump, there being no communication between the crankcase and the compression chamber, so that oil cannot get to the tires. The pump is mounted on the end of the crankshaft when in use and carried in the tool box or other convenient place at other times. Has no gears or brackets. Made for Hudson, Overland, Reo, Chandler, Studebaker, Stearns-Knight, Dodge and Chalmers cars.

DETROIT POWER TIRE PUMP

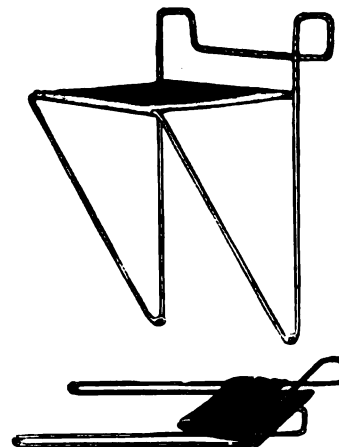
Detroit Motor Accessories Co., 1311 Majestic building, Detroit. PRICE, \$7.75.

A pump that is mounted at the forward end of the crankshaft, where the crank usually is applied, and is carried in the tool box when not in use; weighs 4½ pounds. Drives direct, without gears. Adapted to Chandler, Dodge, Overland, Hudson, Reo and Studebaker cars.

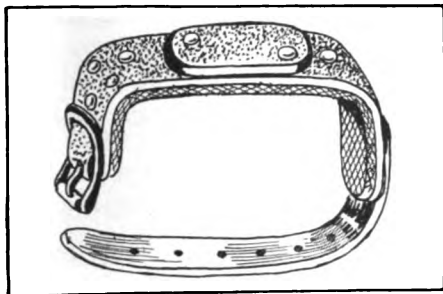
McKINNON STEEL FOLDING SEAT

McKinnon Dash Co., Buffalo. PRICE, \$1.50.

This is an auxiliary seat for Ford cars; the frame is made of round steel electrically welded, finished in japan, with padded leather seat. The seat rests on the door sill and is held in place by hooking over the top of the door. When the seat is in place it is impossible to open the door. Hooks are padded with leather to avoid marring finish.



McKinnon steel folding seat

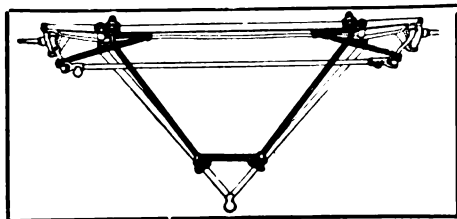


Strap-and-pad oiler for leaf springs

STRAP-AND-PAD SPRING OILERS

Leather Tire Goods Co., Niagara Falls, N. Y. PRICE, 25 cents each.

A leather strap passes around the leaf spring, being held by an ordinary buckle. The strap is lined with a pad of wicking which retains oil and feeds it out to the interstices between the leaves. A hole in the strap is provided for inserting the oil-can spout to recharge the pad; a leather cover excludes dust and though it is stationary the can spout is easily pushed under it. The leather is treated



Cox steering device for Fords

to prevent oil absorption. Two straps are required for each Ford spring, two for a semi-elliptic and four for a full-elliptic spring.

HOVEY AUTO JACK

J. H. Whetstone & Co., Lapeer, Mich. PRICE, list, \$6; \$4.75 in lots of six.

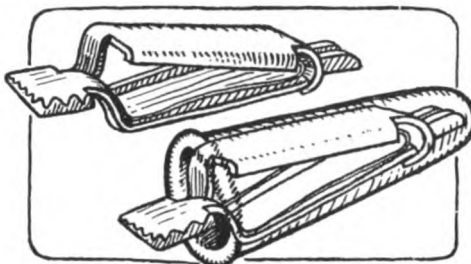
A 4-foot curved handle or lever carries a lifting head that is adjustable for height and at the foot of the head column a pair of wheels. The head is adjusted to the proper height, pushed under the axle and the lever pressed down, bringing the lifting head column into a vertical position and at the same time lifting the axle; the wheels form a shifting fulcrum, moving under the axle and passing a little beyond the center line so that when the lever rests on the floor there is no tendency for the jack to topple over. The head is adjusted by the foot, the hands not being required. The materials used are malleable iron and open hearth steel.

HORIZONTAL JET CARBURETER

Swan Carbureter Co., 540 Van Ness avenue, San Francisco.

Simplicity of construction and accurate adjustability are two prominent features of the Swan carbureter. The float chamber is offset from the mixing chamber;

a single passage carries fuel to the jet, which is horizontal and opens into the middle of the mixing chamber and is controlled by a needle valve projecting from the opposite side of the mixing chamber and interconnected with the throttle so that the gasoline supply is increased and diminished with the throttle opening. At the same time the air passage at the nozzle is varied, so that the velocity of the air passing the jet always is sufficiently high thoroughly to break up the gasoline. Auxiliary air is supplied



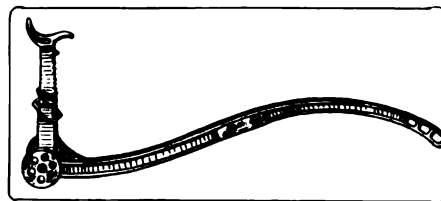
Mueller's clips for electrical tests

through an automatic valve above the float chamber, the passage opening into the mixing chamber just below the throttle. The auxiliary valve stem is extended downward and terminates in a piston which works in a dashpot in the bottom of the float chamber, preventing fluttering and too rapid opening and closing. The ratios of openings are adjustable and the gasoline flow can be adjusted to any throttle opening. A special model of the Swan carbureter is made for Fords.

RUBBER HANDLED SCREW-DRIVER

The H. D. Smith & Co., Plantsville, Conn. PRICE, \$9 per dozen.

An insulating covering of rubber is moulded over the handle and part of the blade of a screwdriver that is 11 inches long over all and has a 6-inch blade; the rubber provides an excellent grip and gives insulation against shocks which are likely to occur when work is done on any machinery or apparatus where current is flowing at high tension—especially ignition systems. The covering meets the blade flush so that there



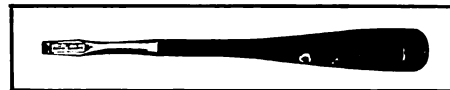
Hovey jack for garage service

is no shoulder; the tool is smooth from end to end. Width of blade, $\frac{1}{8}$ inch.

COX PILOT FOR FORDS

Cox Brass Mfg. Co., Albany, N. Y. PRICE, \$3.75.

An automatic steering device claimed to make steering easier and safer, to prevent bending of the radius rod and to protect the axle from danger of breakage. It is attached just inside the radius rod supports and is of flexible tempered steel; it prevents the swerving of the car on rough roads and makes a constant tight grip on the steering wheel unnecessary.



Smith insulated screwdriver

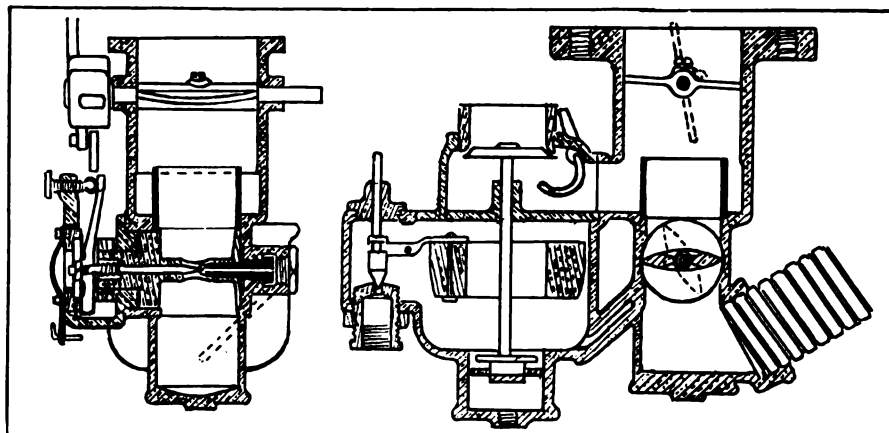
MUELLER'S TESTING CLIPS

R. S. Mueller & Co., Cleveland.

For making temporary electrical connections, as for battery charging or testing, and for making tests of electrical machinery or apparatus, these clips are a convenience. The teeth bite through corrosion or coatings of foreign matter on wires and terminals and save the time that would otherwise be required for cleaning. Made in various sizes and capacities. The size most used by the motor car trade is No. 13, which is lead plated and is designed to carry a 20-ampere load.

Clean Stocks

Page 5



Swan carbureter, in which the fuel jet is horizontally positioned



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Attract the Women

The NINETEENTH installment of Motor World's Campaign for Greater Profit.

IT IS a fact that a woman customer is a rare visitor to the average accessory store, and a rarer one in the accessory department of a garage. The reason is plain to all who have eyes to see, but not a great many proprietors or managers have the proper visionary powers, or if they have them they do not make use of them.

Unless the exterior of the place of business is attractive and the interior is spotless, it is repelling; it grates on the finer sensibilities of a woman to be compelled to side step dirt and to view disorder.

So, if the garageman or the supply dealer would win for himself the trade of the sterner sex, it is only necessary that he appeal to the weaker sex. If any garageman or accessory dealer can draw the women into his store BECAUSE OF ITS CLEANLINESS AND ORDER, he will draw the men as well, for though there may be one man who will tolerate dirt and disorder and excuse it to himself on the plea that it is a necessary evil, there are ten, or one hundred, who are quick to realize that the dealer who has cleaned up has risen above his surroundings. The story of such a man appears on page 5 this week.

Winter Business

THE first days of September are upon us and with the low scurrying leaves and the chill evenings comes a new opportunity for the car dealer, the accessory store, the garageman and the repairshop. For

the car dealer, the possibility that lies in the sale of closed cars looms large. Some dealers each year inaugurate a especial campaign for the sale of closed cars and that time now is fast approaching. Soon it will be too late.

Cool Weather Widens Field

The wide-awake merchandiser behind the accessory store counter, too, has his field widened by the advent of cooler weather. Those who have not been using light robes will need them; car warming devices soon will be in demand; heavier clothing, gloves, radiator covers and a hundred and one other devices of a like nature soon will find a ready sale. To the garageman the waning of the summer season may not mean so much though to those whose patrons own cars with both closed and open bodies, comes the work of making the change.

Sowing for Winter Trade Crop

Perhaps the greatest opportunity comes to the repairshop operator whose shop may not have been overcrowded with work because of the touring season. The winter is the overhaul period. Some garagemen are progressive enough about this time to send out a series of letters to their better customers soliciting overhaul work for the dull winter months. The letters do not bring immediate results but they are the seeds from which the winter crop of business is harvested a little later.

Help Your Fellows

WITH the summer touring season drawing to a close, the various dealer associations all over the country are settling down to work again and already results are becoming apparent. What has been achieved by these associations is an apt example of what John Stuart Mill has said: "Almost all of the advantages which man possesses above the inferior animals arises from his power of acting in combination with his fellows, and of accomplishing by the united efforts of numbers what could not be accomplished by the detached efforts of individuals."

Join a Good Organization

How well this sentiment is appreciated is made plain by the number of members any organization can boast. Those who have not the power to sense its meaning persist in remaining outside the organization fold. That they, too, share in organization results, is their good fortune. Why should not these dealers come in out of the cold and enjoy legitimately what has been given them through the work of others. The great spirit of today is GET TOGETHER. No man can get together with himself. The time fast is approaching when not to be a member of some worthy organization is to be looked at askance, perhaps to be ridiculed.

Syndicate Will Finance Boston Motor Car Dealers

Cars Will Be Stored in Mammoth Building as Security for Loans to Dealers—Would Eliminate Individual Warehouses

BOSTON, August 26—Plans are under way to form a syndicate in Boston that will finance motor car dealers and store their cars pending the delivery of them to purchasers. W. J. McDonald, who is a big real estate operator, is forming the syndicate, and the first move was to purchase property in Boston containing 275,000 square feet. It backs up on the Boston & Albany railroad. The plans call for the construction of an immense building with some 200,000 square feet of floor space, and which will be capable of accommodating 1,000 cars. It will be one story, with plans for additional stories if needed later.

Spur tracks and loading platforms will be put in so that cars may be run right in from the freight trains and stored there. On their receipt the agents will be notified and then they may borrow money on the cars to finance their deals instead of going to banks. The warehouse will be fireproof and thoroughly modern. The syndicate will have a capitalization of \$500,000.

At present some of the dealers are paying high rent for storage in buildings for removed from their plants, and this method will allow some of them to get



WILLIAM L. COLT
Cole and Dodge Bros.,
New York

District Representatives

XXII

William L. Colt graduated from the mechanical engineering course of Cornell University in 1894, entered the bicycle industry and remained in it until 1904. From a period, 1899, when the American Bicycle Co. was formed, until 1904, Colt was general sales manager of the Federal Mfg. Co., which was one of the subsidiary companies of the American Bicycle Co. He then became president of the Cleveland Motor Car Co. and for three years marketed the Cleveland car. Colt left the motor car business for a period of 2 years, during which time he was in the advertising field. He re-entered the motor car business in 1909, forming the Colt-Stratton company, which company became the general eastern distributors for the Cole Motor Car Co., which product they have represented ever since throughout the eastern Indianapolis. As eastern district representative for the Cole company, Colt has handled the territory comprising New York state east of Syracuse, Pennsylvania east of Harrisburg, Maryland, Virginia, District of Columbia, Delaware, New Jersey, and all of New England. The Colt-Stratton company handled the Cole exclusively until the fall of 1914, when it also became metropolitan distributor for Dodge Bros., Detroit.

along with less space in their regular headquarters, the space thus vacant being available for salesrooms or service departments. The location of the new warehouse is convenient, for it is not far from the big Packard service station, which marks the western boundary of the motor district on Commonwealth avenue. Full particulars have not been given out yet by Mr. McDonald, but it is expected that the plans will all be made public shortly. Stock in the enterprise may be offered some dealers.

Law Kills Philadelphia Jitney

PHILADELPHIA, August 26—The jitney in Philadelphia has become a mat-

ter of history. The 10 days respite granted by the courts before which councils' ordinance would be effective expired August 19 at midnight. As a result of the enforcement of the law which requires a \$2,500 bond and a license fee of \$50 the number of jitneys was reduced from over a thousand to less than 10.

Owners find that to operate under the provisions of the law would be extremely unprofitable. Meetings of the several jitney associations have as yet failed to revive the business, but it is quite probable that a test case will be brought before the courts to test the constitutionality of the law.

Oldest Dealers

Men who have handled one car
for the longest period of time.
Others will appear in this series.



W. C. POERTNER
National, New York



Poertner's Broadway salesroom; National, Jeffery, and Waverley electrics are handled

THE THIRD OLDEST DEALER of the National Motor Vehicle Co., Indianapolis, is the Poertner Motor Car Co., Inc., 1759 Broadway, New York, of which the president is William C. Poertner, known along the "row" as "Bill."

Poertner has represented the National through an unbroken period since 1909.

His trade history is not a long story; before taking the National agency he operated a garage. Poertner is one of the best known of New York's dealers and is active in trade and civic affairs. He moved about a year ago from a smaller store further up Broadway to his present location. The secretary of the company is George S. McCutchen.

Dealer's Legal Status

If Possession of a Car is Transferred by Dealer to an Owner, the Dealer is Not Responsible for Owner's Doings—Title Reservation Immaterial

By George F. Kaiser

Editor Motor World:

A dealer sells a car for part cash and takes lease notes for the balance, the title not passing to the purchaser until all is paid. Before payment of the last note an accident occurs and the owner is sued. Could he evade liability by claiming that car did not belong to him? What is the dealer's status? Could judgment be rendered against the dealer as the owner in fact?

Possession of Car Transferred

Although you reserved title to the car, you infer that you transferred possession. If you transferred the car to the purchaser, that is, gave him possession of it, and at the time of the accident he was operating it for his own uses and purposes, you need have no fear that any court will render judgment against you merely because of the fact that the title to the car is still in you. The purchaser, of course, can claim that the car did not belong to him at the time of the accident, but that would avail him nothing, as he might borrow a car from a friend and, while driving it for his own enjoyment, injure a person and be held responsible for the damages.

The courts are less inclined to hold the owner of a motor car responsible for personal injuries merely because of the fact of their ownership of the car than they were a few years ago.

Driver Is Always Responsible

Among recent cases handed down by the courts of the various states on the question of an owner's responsibility for accidents it has been held a number of times that he is not even liable for injuries when he employs a chauffeur who uses the car to go to meals either with or without the express consent of the owner.

The dealer's status in a case like that which you cite is very similar to that of a bailor (the lender of a car). The courts have repeatedly held that if a person lends a car to a friend without retaining any supervision of it, the friend, and not the lender, must make good for any personal injuries sustained by people injured through the negligence of the friend.

HELP

The Legal Department of Motor World is anxious and willing to answer any and all questions pertaining to the dealer's legal status. But it is absolutely essential for an intelligent reply that all documents, contracts, forms, etc., to which reference is made accompany the question.

Oral Assurances Recognized Under Certain Circumstances

In a recent case which was passed upon by the Supreme Court of Pennsylvania, a motor car manufacturer had brought an action to replevin a motor car which had been sold.

A written contract had been drawn up between the purchaser and manufacturer and signed by them and the contract contained the clause "that there are no representations, agreements, undertakings express or implied, relating to said goods other than those contained herein."

Clause Omitted from Contract

The buyer contended that he had been orally assured that a well-equipped service station would be installed in the city, at which repairs could be made and new parts would be furnished as required, and refused to pay the unpaid balance of the purchase price because no such service station had been installed and therefore its convenience was denied him.

The Supreme Court held that as long as the part of the agreement as to the service station had not been omitted from the written contract through fraud, accident or mistake, the manufacturer was entitled to have the motor truck returned to it if the full purchase price was not paid, on the ground that when the clause above set out is contained in a written contract no oral assurances, representations or guarantees will be taken note of by the court unless the party desiring to take advantage of them can show fraud or mistake. (General

Motors Truck Co. vs. Philadelphia Paving Co., 94 Atlantic (Pennsylvania) 236.)

Don't Loan Money on a Car Unless Certain of the Title

A case illustrating the folly of lending money on an automobile, unless certain that it is not in the name of the owner's wife, was recently handed down by the Kansas Court.

According to the testimony in the case, a bank had made a loan of \$8,000, taking as part security a chattel mortgage on a motor car. The mortgage was signed by the Wickham Grain Co., by H. W. Wickham, president. Later Wickham disappeared and his divorced wife sued the bank for the recovery of the automobile, claiming that the car was her personal property. It was shown that the company had obtained the State Charter, but its organization never had been perfected, while the motor car was bought before the company was chartered. Although the machine was listed for taxation as the property of the company, the Supreme Court refused to disturb the decision of the county court that the wife was entitled to it as her own property and that the mortgage was void. (Wickham vs. Traders State Bank of Salina (Supreme Court of Kansas).)

New Four-Wheel Drive Truck

ST. PAUL, MINN., August 27—The Twin City Four-Wheel Drive Co. has bought the J. L. Ware patents for trucks. The company is capitalized at \$500,000 and opened temporary quarters at 2324 University avenue. The company has 200 feet frontage of property in the vicinity and plans are being drawn for a three-story office and factory building. Officers elected are: President, J. L. Ware, Minneapolis; vice-president, T. J. McDermott; treasurer, F. J. Drew, Minneapolis; secretary and general sales manager, M. T. Roche. It is the intention to have trucks ready in 1916.

Maryland Hupmobile Dealers Gather

BALTIMORE, August 26—Hupmobile dealers in Maryland gathered on Thursday last at the Club Garage, 10 West Eager street, and listened to a talk by J. G. Roe, special representative of the Hupmobile factory. He outlined the new service proposition. Those who attended were: W. P. Wright and R. E. C. Lowe, Centreville; W. Irving Jones, Snow Hill; W. D. Reinhart, Frederick; C. M. Maddriz, Crisfield; A. Wotten, Salisbury; R. Lee Brown, Cambridge; H. L. Caylor, Linwood; W. D. Smith, Havre de Grace, and A. W. Loose, H. C. E. Clark, C. E. Loose, J. W. Morgan, S. B. Anders and M. Wenzel, Baltimore. The party attended a dinner at the City Club in the afternoon.

The RETAIL NEWS

PACIFIC COAST

Elmer D. Jones, Beaumont, Cal., owner of the Beaumont Garage, has been appointed agent for the Ford in this section.

The Redlands (Cal.) Studebaker agency is now in the hands of C. M. Crosson and William Gibson. The Studebaker garage and salesroom is being remodeled and the service department is to be in charge of Gibson, who was formerly associated with Diddier Masson in the aviation profession. Crosson is to devote his time exclusively to the sales department. Crosson & Gibson have the agency for both Riverside and San Bernardino counties.

A. C. Ewing and Charles L. Cliffe have taken over the Oakland agency in Tacoma and have opened quarters at 906 Tacoma avenue.

W. S. Dulmage, until recently a prominent motor car distributor of Portland, Ore., has established the northwest headquarters for the Chevrolet car in Seattle and opened sales rooms at 1726 Broadway. His contract calls for the distribution of 1,500 Chevrolet cars in the northwest this season.

Harry O. Bell, who has been identified with the automobile business in Spokane for the past nine years and recently wholesale manager for F. A. Williams, Ford agent in Spokane, has taken the Ford agency for Missoula, Mont., and contracted to dispose of 300 Ford cars for 1915 and 1916.

E. B. Snyder, of the Cole Spokane Co., announces the acquisition of the King car for Spokane and the Inland Empire. His territory will also include eastern Washington and northern Idaho.

The Midway Garage, Venice, Cal., has been sold by W. A. Richmond to James Brophy and R. S. Mason. The new owners will operate the garage in the future in connection with the Venice automobile park, which has a parking exchange with the Los Angeles automobile park.

The Savage Tire Co., San Diego, Cal., has opened a second salesroom in the business section of the city. The new Savage quarters are in the Spreckles building on Second street between Broadway and E.

L. M. Tefft, proprietor of the Tefft Garage, San Diego, Cal., is now located in a new fireproof building erected for his use at Seventh and B streets. In addition to the regular business Tefft has the agency for both the Mitchell and Stearns-Knight lines and the old place on Front street proved too small.

Gibbel & Aylesworth, Hemet, Cal., distributor for the Dodge line, has completed one of the most modern and best equipped garages in this section of southern California. The repair and service department is now equipped to handle every branch of motor car service.

Frank Verbeck, manager of the Savage Tire Co. branch, Pasadena, Cal., is now located in new quarters at 43 to 45 East Union street.

The Ford Motor Co.'s Pasadena branch has been opened, with Eylar M. Fillmore, formerly traveling representative for the Los Angeles Ford branch,

in charge. C. D. Tucker has been appointed assistant manager and placed in charge of the selling force.

Whipple & Heaston, Huntington Park, Cal., are just completing a 50 x 80 brick garage building at Baker and Otis avenues. This establishment, to be known as the Bell Garage, is located on the county boulevard leading from Huntington Park to Norwalk, Downey and Whittier.

Joe Nadeau, proprietor of the Ford Garage, Nadeau Station, Cal., has added almost 6,000 square feet of floor space to his garage in order to make room for a \$5,000 stock of Ford parts and accessories.

The Kenwood Garage, Glendale, Cal., will conduct a repairshop in conjunction with the Glendale Ford agency after September 1. This repair business is to be handled by O. M. Clinton, E. D. Gregg and Harry W. Hall. They have already installed the only oxy-acetylene welding and brazing torch in the city and intend to have the most up-to-date repair equipment in this section.

Howard W. Walker, W. R. Middleton and Jesse E. Smith, Glendale, Cal., have formed a partnership to handle the Ford.

NORTH WEST

N. E. Pratt has opened the Plymouth Garage at 500-502 Plymouth avenue, Minneapolis.

Calkins & Murphy, Moorehead, Minn., has become Calkins-Murphy-Vincent Co., with the addition of Mayor J. C. Vincent, who has taken a third interest. The company will distribute Dodge and Chalmers cars.

The Dillner & Holbrook Co., Mankato, Minn., has been incorporated at \$25,000 by E. T. Dillner, C. R. Holbrook and Iney Dresden Dillner.

Otto Ewert, Waldorf, Minn., has bought a half interest in the Habeck Garage and the firm is now Habeck & Ewert.

Kvech & Jansen, Olivia, Minn., are erecting a garage on the site of their old one.

E. T. Bentley and J. F. Riwerst, Rochelle, Ill., have bought the Crookston Garage, Crookston, Minn., from Stebbins & Robert.

H. B. Grover, Grafton, N. D., will tear down part of his livery barn and erect a building for a garage and showroom.

Charles Shidler and Ralph Smith have taken over the Higinbotham Mitchell agency in Centerville, S. D.

C. R. Werner, St. Paul, and **E. W. Jakobitz** will open a garage September 1 in Buffalo Lake, Minn.

Carl Westre and John Jensen, Mayville, N. D., have dissolved partnership. John Jensen will continue.

C. E. Ford and Fred Simmons, Elgin,

S. D., have become owners of the Elgin Auto Co. garage and equipment.

Frank Tripp, Clinton, Minn., will erect a fireproof garage.

C. E. Tripp and W. B. Sheldon, Red Wing, Minn., and **M. H. Graham**, Pine Island, Minn., have acquired the interests of Skillman & Afton in the Zumbrota Auto & Machine Co., Zumbrota, Minn.

The Lisbon Motor Co., Lisbon, N. D., has opened a garage, with Lindstrom & Gardner as managers.

The Interstate Auto Co., 206 East Superior street, Duluth, Minn., last week had an official opening of its new quarters. The company showed new Kissel and Franklin models.

John M. Ford, Duluth, Minn., has taken the agency for Winton cars and has just moved into new showrooms at 208 East Superior street.

A. G. Anderson and his son have bought from Martin Lee the garage at Marvin, S. D.

The Van Brunt Automobile Co., Sioux Falls, S. D., will erect the largest garage in the city.

F. P. Amo, Duluth, Minn., has bought the garage and machine shop of Sam Morehouse in Bristol, S. D.

Cooper & Clute, Dunnell, Minn., have begun erection of a garage.

P. H. Kelly, Larchwood, Minn., has bought the Gannon Garage from D. L. and John Gannon.

Welch & Powell, Ortonville, Minn., have dissolved. Welch will go with the Arthur Matthews Ford garage and Art. Powell will continue the Hupmobile agency.

W. O. Dennis and R. F. Deneen, Litchfield, Minn., have formed a partnership and taken the Meeker county agency for the Franklin automobile tube splicer machines.

SOUTH WEST

L. G. Wilhelm, Hannibal, Mo., recently appointed Overland agent, has opened a salesroom at 1222 Market street.

The Reliable Auto Livery Co., St. Louis, Mo., has obtained a 10-year lease on a tract 70 x 75 feet at 425-431 North Euclid avenue, where it soon will begin the erection of one of the most complete public garages in the city.

The Denby Missouri Truck Co., of 405 North 22nd street, St. Louis, Mo., has been appointed distributor of the Denby truck. G. Y. Parrish will be sales manager.

Frank Ebbeler, manager of the Auto Exchange, St. Louis, Mo., closed a contract with W. H. Conklin, of the Commonwealth Motors Co., for the distribution of the Partin-Palmer in the St. Louis district, including southern Illinois and eastern Missouri. The Auto Exchange is distributor also for the Detroit and the United States truck.

The Missouri Auto Specialty Co., St. Louis, Mo., will double its floor space by moving from 1834 Locust street to 1905 Locust street about September 1.

EAST

The Standard Motor Co., Baltimore, Cadillac distributor, has consolidated all its departments at 1009-15 North Eutaw street. Since 1909 the showroom of the company has been on Mt. Royal avenue and three years ago the Eutaw street buildings were remodeled as a service station and general office. The tire department has also been moved from Mt.

Clean Stocks

Royal avenue to Eutaw street. F. S. Bliven is president of the company.

The Standard Garage, Baltimore, has been opened at 418-434 North High street. In addition to having space for 125 cars it has a large repairshop and elevator service.

The D. C. Tiffany Co., Boston, that has the Ohio electric, has added the Ward electric to its line.

The O. A. Kelley Co. has taken the agency for the Velie line in Worcester, Mass., with salesrooms on Foster street. The Velie has been unrepresented here for nearly a year.

George N. Jordan, manager of the New England branch of the Studebaker Corp., has leased salesrooms on Main street, Worcester, Mass., for a factory branch of the corporation and has placed George Eastman in charge. A service station will be added later.

The Bigelow-Wiley Motor Co., Paige distributor in Philadelphia, is moving its headquarters from 204 North Broad street to 304 North Broad street. The move was necessitated by increasing business which made the old quarters inadequate.

The Eastern Motors Co. has leased a showroom at 1634 Chestnut street, Philadelphia, for the sales of the Standard car, made by the Standard Steel Car Co., Pittsburgh.

The Gulf Refining Co. is building a one-story brick service station at 33rd street and Woodland avenue, Philadelphia, costing \$5,000.

CANADA

Sayer & Ford, Vancouver, distributors of the Dunlop tire, have recently installed the largest free air service in Vancouver.

The Consolidated Motor Co., Vancouver, distributors of Fisk tires and Veedol products, have closed their Granville street branch and are now conducting their business from their garage on Georgia street.

The East End Garage Co., Hamilton, Ont., has been formed for the purpose of dealing in automobiles, equipment and accessories. The capital stock is \$40,000, divided into 400 shares of \$100 each. Provisional directors are F. A. Robertson, C. R. Robertson and G. S. Dunkin.

Brooks & Charters, Vancouver, have taken over the management of the Central Garage, which was run for the past two months by the owner of the building.

The Acme Magneto & Electrical Co., Winnipeg, Man., has opened a repairshop and testing laboratory at 34 Arthur street.

The Acme Garage, Vancouver, which was managed by J. Wilson, is now closed.

J. W. Penzer, proprietor of the Marine Garage, Vancouver, has assigned.

Frederick Askew, Vancouver, has closed his garage and left for England.

The Fashion Garage has opened in New Westminster, B. C., on Canarvon street.

The B. C. Motor Exchange, at 636 Howe street, Vancouver, is now under the management of Fitzpatrick and Jesperson.

Biggs & Fox, Vancouver, have opened the Argyle Motor Works at 1366 and 1368 Granville street.

The Tait Tire Co., Victoria, B. C., is moving the Victoria branch to a more

central location at 1012 Yates street. They expect to be in their new place about September 1.

The Richmond Garage, Eburne, B. C., intends adding a vulcanizing department.

Dingwall Cotts & Co., Vancouver, has taken the agency for the Vim delivery car. It is being handled for the present by the Commer Truck Sales Co.

The Grandview Garage, Vancouver, is now under the management of J. Wilson. Wilson formerly carried on business on Main street under the style Acme Garage Co.

MOUNTAIN

The Wilson Auto Co., 801 Broadway, Denver, has dropped the Mitchell and is now distributing only the Chandler.

Blackwell Bros., Baggs, Wyo., have just bought two ¾-ton White trucks to haul mail between Baggs and Wamsutter. They have also secured the White agency for that territory.

P. R. Hough, formerly assistant manager of the Ford Motor Co.'s branch assembling plant at Denver, has gone into partnership with Harry E. Maines, Chevrolet and Monroe distributor. The new firm, under the name of the Maines-Hough Motor Co., is located in the Motor Inn, a new building at 439 Broadway. The building is 50 x 185 feet, with one story and basement.

The Auto Clearing House, 1533 Tremont place, Denver, has been purchased by Charles F. Strong. The concern deals in used cars and maintains a large garage.

SOUTH

Strube's Garage, 432 East Broadway, Louisville, Ky., has acquired the agency for Denby trucks. This concern also handles the Koehler truck.

B. Lemon is having plans prepared for a garage in Louisville, Ky.

The Pegram Motor Car Co., Atlanta, Ga., has been made representative of the Maxwell Motor Co. It also handles the Mitchell.

The Pullman Automobile Co., Atlanta, Ga., has taken possession of its new quarters at 316 Peachtree street. L. L. Stevenson is in charge.

The Johnson Motor Car Co., Atlanta, Ga., has closed a contract for North Georgia for the Reo pleasure and commercial cars. Agents will be appointed.

Joseph Mobley, Ford dealer in Elizabethtown, Ky., is building a new two-story brick garage. It will cost about \$5,000.

Paul Strother, Ford dealer in Mt. Sterling, Ky., is building an addition to his garage. It will be used as a service station.

The National Auto Sales Co., Louisville, Ky., has opened an office and salesroom at 728 South Fourth avenue. The concern will deal in used cars, tires and accessories.

MIDDLE WEST

Ira L. Bell, Rockford, Ill., has purchased a lot on North Church street and will erect a two-story garage, salesroom and service station. Bell has the Overland agency.

H. A. Gabel, Hudson dealer in Rockford, has taken the Maxwell.

C. D. Miller, Grand Rapids, Mich., has been made distributor of the Chalmers. Pending the completion of a garage and salesroom Miller's quarters will be with the Reid Auto Co.

Frank L. Stewart, Pontiac, Mich., is to have a new garage, 60 x 140, on Perry street.

Fred Felix Wettingill, M. J. Konrad and F. M. Charlesworth, Appleton, Wis., have organized the Appleton-Buick Co. with \$5,000 capital, to take the Buick agency for the Fox river valley.

R. Roberts, Milwaukee, Wis., is building a garage at 853 National avenue and will install repairshop equipment.

H. A. Rowe, Clinton, Wis., is building a new garage and machine shop, 58 x 100. The garage will be conducted by Charles A. McCommons, who will take several agencies, and the service station will be in charge of Rowe.

The Fred P. O'Brien Co., Indianapolis, Pierce-Arrow dealer, has closed a deal with the Maxwell Motor Co. whereby the O'Brien company takes the distribution of Maxwell cars in this territory.

The Higgins-Sutherland Co., Indianapolis, is an evolution of the Higgins Motor Sales Co., of which G. W. Higgins was the head. The firm name is changed and the "Sutherland" part added with the entrance of R. L. Sutherland into the company as part owner. The new company will be distributor of the Hupmobile and Saxon, having forty counties on each car in the central part of the state.

The A. A. Crumley Co., Detroit, has been formed to become the distributor of the King for the State of Michigan. It will occupy the large garage and salesroom at Woodward and Warren avenues, which has just been vacated by the Winton Motor Car Co. branch, the latter going into its new quarters.

The Reel Auto Service, formerly located at 308-12 Eleventh street and doing a taxicab business, has moved into new quarters at Eleventh and Walnut streets, Des Moines. The name will be continued, but the company will do a general garage and accessory business in connection with their taxicab business.

The Holsman-Stevens Auto Co., now located at 1117 Locust street, Des Moines, will erect a new building on the northwest corner of Eleventh and Locust streets. The new building will be one story high and will have a frontage of 66 feet on Locust street and 132 feet on Eleventh street. There will be three stores, the one on the corner to be occupied by the builders as a salesroom for the King and Scripps-Booth. The other two will be rented.

The Hudson Jones Auto Co.'s new building at 1210 Locust street, Des Moines, will be ready for occupancy about September 15.

H. R. Henry, formerly manager of the Brown Garage, Des Moines, has gone with L. C. Rood, of the Rood Garage Co., at 201-213 Eleventh street, where the Rauch & Lang electric will be sold in the future.

The Buell Auto Sales Co., Jackson, Mich., agents for Dodge Bros., will erect a two-story with basement display and salesroom. The building will be 44 x 106 feet.

The Brasher Motor Car Co., at Fourth and Gay streets, Columbus, O., has a two-year contract to handle the Cole in central Ohio territory.

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The Stoddard-Dayton-Maxwell Repair Co., Dayton, has changed its name to the Dayton Auto Service Co.

M. E. Beri and J. W. McCord, Alliance, O., have opened new salesrooms and a garage at Prospect street and Arch avenue. They trade as the Central Motor Car Co. The building is two stories and brick.

E. L. Stanley & Son, Sebring, O., is erecting a brick garage and repairshop, 48 x 70, on Ohio avenue.

The Rardin-Keyger Sales Co., Huntington, W. Va., Maxwell dealer, has moved to new quarters at 611 4th avenue.

The G. E. Thomas Co., 166 North 4th street, Columbus, has added the Winton agency to its Mitchell business.

Bert Alberts and Loyde Simonton, Elkhart, Ind., will build a one-story garage and salesroom, 70 x 80. It will cost \$8,000.

The Bricker Auto Garage, West Main street, Richmond, Ind., has been purchased by Earl Spangler and Morris Jones, who have changed the name to Central Auto Station. Spangler, who has been Haynes and Reo dealer, will continue this business.

The Chidester Motor Car Co., Lancaster, O., has been sold by Chidester Bros. to H. F. Belt, of Columbus. Belt has been employed by the Willys-Overland Co. in Columbus.

The Universal Motor Car Co., Portsmouth, O., has moved into the Brush building on Second street.

The Scripps-Booth Sales Co., Cleveland, has moved from 2027 to 6504 Euclid avenue.

H. W. Lancashire, Toledo, is having a sales and service building erected on Madison avenue. He is now handling the Dodge Bros. car in the lobby of the Spitzer building with a service station at 218 Huron street.

R. Roberts, 485 National avenue, Milwaukee, plans to build a one-story garage, 48 x 50.

John Gumb, 1223 Center street, Milwaukee, has let the contract for a one-story garage, 50 x 100.

George Hall, Rubicon, Wis., has awarded the contract for a two-story garage, 64 x 86. It will cost \$7,000.

George C. Call, Sioux City, Ia., has secured plans for a garage, 75 x 100. The estimated cost is \$8,000.

John A. Stethson, Duluth, will erect a garage, 80 x 100, to cost \$20,000.

Harry Moore, Columbus, O., formerly with the Columbus Buggy Co., has opened the Columbus Electric Garage at 165 North Fourth street.

The Sharpe & Crammer Co., Zanesville, O., will erect a garage.

The Dawson Garage & Sales Co. has been formed in New Philadelphia, O., by William A. Dawson, Elizabeth Dawson, F. E. Miller, Emil E. Shaw and Russell J. White.

The Pomeroy Garage, Pomeroy, O., has been purchased by L. W. Stevens, Pearl Cohen and his son, Ben Cohen, all of Rutland. They heretofore have operated a blacksmith shop.

W. E. Perry, Berlin, Wis., has purchased the interest of his partner in the firm of Perry & Woehlke. The firm operates garages in Markesan and Princeton.

Laurance Syse, Blanchardville, Wis., has secured an interest in Owen Kelly's motor sales business. They handle the

Buick, Ford, Oakland, Oldsmobile and Overland.

J. A. Kromser has sold his interest in the Appleton Motor Car Co., Appleton, Wis., to his partner, J. A. Smith. Kromser will retire to his farm in Shiocton.

George Kroncke, Sun Prairie, Wis., has bought out his partner, William Lillich, in their garage business. Kroncke has taken his two sons, Arthur and Arnold, into partnership under the style Kroncke Auto Co. They will build a new garage.

J. E. Voynton and G. F. Mead, formerly of Portland, Ore., have opened salesrooms for the Ford in Ottawa, Ill. They located in the Shanley building on La Salle street.

T. J. McNamee, Otto Rottmeier, William Caldwell, Clarence Caldwell and John Anderson, St. Clairsville, O., will erect a concrete garage 100 x 50.

Carl Hulsebus, Peoria, Ill., has opened a garage at 305 North Jefferson avenue, to be known as the Peoria Garage.

Edward Johnson, Peoria, Ill., has opened a garage at 1316 Main street.

The Holmes Automobile Sales Co., Danville, Ill., has been organized and will succeed Robert Holmes, who founded a garage business in Danville and who retires. The new firm will be composed of William Holmes, Daniel Beckwith and Albert Custer, and will handle the Studebaker and Cadillac. Robert Holmes, who retires, organized an implement business in Danville in 1880. He brought the first automobile agency to Danville.

The Lincoln Auto Parts Co., Aurora, Ill., has opened up at 71 La Salle street. D. M. Taylor, of Chicago, is manager.

Daniel Meyers, Belvidere, Ill., will erect a new garage at First street and Garfield avenue this fall, having outgrown his present quarters.

Tournebeau & Patro, dealers and garage owners in Martintown, Ill., have filed a petition in bankruptcy, owing \$3,925, while their assets are but \$1,238.

J. W. Kelley, Rockford, Ill., has opened a garage and repairshop on Green street. He has been with the Overland company as traveling representative in Europe, three years being spent in Petrograd.

R. Carpenter and Drew Donaldson, Rock Island, Ill., have opened a salesroom and garage at 2016 Third avenue. They have the agency for the Cadillac and Dodge. Carpenter has been associated with the Davenport Auto Co. for the past five years. Donaldson has been a salesman in Rock Island and vicinity for the past three years.

J. B. Dahleimer and son Fred, Rockford, Ill., have opened a shop at 319 Cedar street for double-treading worn tires.

L. M. Taylor, Lincoln, Ill., for three years manager of the Logan County Auto Co., has sold his half interest to H. Mayer, of Springfield, but will remain as floor manager. William Ritter, who for six months has conducted the Chalmers service station and repairshop, will manage the repair department of the Logan company. The firm will handle the Ford, Studebaker and Buick.

A. B. Johnston has retired as Ford dealer in Springfield, Ill., and has been succeeded by the newly-organized Jennings Auto Sales Co., with Frank Jennings as general manager. Jennings has been retail salesman in Detroit for the Ford company for four years, later going to St. Louis as traveling salesman and retail sales manager.

The Auto Craft Garage has been opened in Birmingham, Mich., by G. F. Schlaack.

John A. Bennett, Jackson, Mich., has been made agent for the Cadillac. The Central Automobile & Supply Co. will continue to take care of the Cadillac service.

Irwin Bacon, Muir, Mich., is continuing the garage business of Edward Ranous, who sold out to enter another line of business.

The Simons Sales Co., Saginaw, Mich., distributor for the Overland and Willys-Knight, will move into new quarters at James and Genesee avenues, which will double the present floor space. The building will be two stories and 108 x 120. During the present season the company sold 832 Overland cars in its territory, as compared with 226 during the previous business year.

P. J. Brophrey, Lapeer, Mich., has opened a garage and accessory store. He has also taken the agency for the Maxwell.

Auten & Tindale, Cass City, Mich., has succeeded Schenk & Waidley and will continue to handle the Buick and Ford.

The Rochester Auto Garage, Rochester, Mich., has opened for business.

Charles Howarth, Oxford, Mich., has secured from E. L. Green & Sons the agency for the Ford in Oxford and Orion townships. He will open a service station in Orion.

The Stohl Auto Sales Co. has been formed in Bay City, Mich., to handle the Hollier. Salesrooms will be at 815 Saginaw street.

The Wynn Auto Sales Co., Sault Ste. Marie, Mich., has been formed and will distribute the Dodge in Chippewa, Mackinac and Luce counties.

B. H. Smith & Co., Caro, Mich., is the successor of James L. Sutton & Son, former Ford dealer.

The Jaeger Auto Co., Monroe, Mich., Saxon dealer, has moved into new quarters at Second and Washington streets.

E. L. Black, Saginaw, Mich., who handles the Dodge, has made arrangements to occupy the Birss building. The front part, 40 x 100, will be used as a salesroom and the rear as the repairshop, garage and service station.

The Bolton Auto Co. and the Garber-Buick Co., Saginaw, Mich., have exchanged locations.

The Nichols & Shepard Co., Battle Creek, Mich., will have new quarters on Marshall street, with room for more than 30 cars in the garage.

A. O. Schreiber, who was district representative of the Saxon Motor Co. in Ohio, has resigned to assume the management of the Loveland Co., Cleveland, which will handle Saxon cars exclusively.

R. C. Smith and C. W. Straubel, Green Bay, Wis., have formed a partnership under the name of S. & S. Motor Car Co., to represent the Oakland in a large northeastern Wisconsin territory. A garage and service station will be established in Green Bay.

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Westinghouse Ignition for Eights

Vertical Unit May Be Mounted on Generator or Separately Driven—Made for Either 6- or 12-Volt Systems

The vertical ignition unit manufactured by the Westinghouse Electric & Mfg. Co. is now made for eight-cylinder motors, and apart from the slight differences necessitated by the number of contacts, the same construction is used as in the four- and six-cylinder types. The accompanying illustration shows the eight-cylinder unit mounted with a generator; it may also be had for separate mounting. Windings may be had for either 6- or 12-volt circuits.

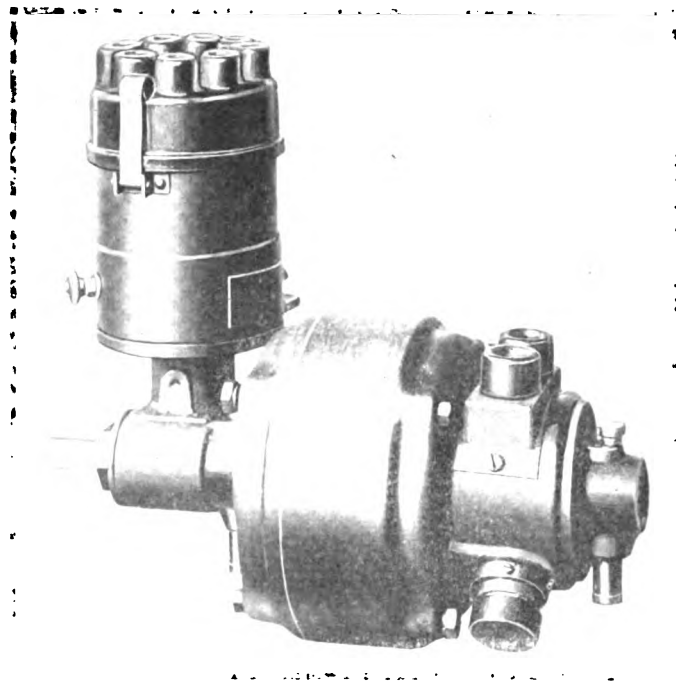
The interrupter, condenser, induction coil and distributor are enclosed in the vertical cylindrical casing and, though completely protected, are readily accessible. A ballast resistor is an important part of the system and is connected in series with the primary circuit. It is of the same dimensions as the standard $\frac{3}{8}$ -inch fuse and usually is mounted on the back of the ignition switch, though it may be separately mounted if desirable. In case of damage to the resistor a 5-ampere fuse may be used as a temporary expedient in its place. The purpose of the ballast resistor is to prevent the burning of the contact points, thus making them last longer.

The switch used is a simple affair of the single-pole type, connecting the negative terminal of the battery to the switch terminal of the ignition unit. Either snap or lever construction may be had; when the snap is used it is usually mounted with the lighting switches, though not necessarily; it can be mounted in any convenient place.

The interrupter or breaker occupies the lower part of the casing; its operation may be observed by loosening a thumb screw and sliding upward a small panel which is visible on the side next to the generator. The high-tension distributor is at the top of the unit and is exposed by removing the cover held by spring clips. The cover carries the terminals for the attachment of the cables leading to the spark plugs. The terminals are of the same type as those used on other standard Westinghouse ignition units.

There is a single oil cup on the distributor, and about once a month two or three drops of oil are required. No other lubrication is needed. In fact, the makers emphasize the warning that no oil may be used at any other point on the instrument.

In the Westinghouse eight-cylinder ignition unit the interrupter, distributor, coil and condenser are enclosed in the vertical casing



Electric Machine Keeps Floors Clean

**Scrubs, Polishes and Refinishes Any Sort of Flooring—
Anyone Can Operate It**

An electrically operated apparatus which may be said almost to eliminate the labor of keeping floors in first-class condition is the Utility floor machine, which is handled by the Vacuna Sales Co., 251 Fifth avenue, New York. It is designed to scrub, sandpaper, polish and otherwise treat floors of all kinds—

concrete, hard or soft wood, marble, tile, cork, linoleum—and does the work with no exertion on the part of the operator apart from the little required for guidance.

The machine carries a $\frac{1}{6}$ horsepower motor, driving scrubbing brushes, sandpaper disks or polishing pads through reduction gears; four types of motors are built—110-volt alternating, 110-volt direct, 220-volt alternating and 220-volt direct; the alternating current motors are for 60 cycles, single phase. Control is by a switch set flush in the handle, which is of tubular steel. Current is obtained from any lamp socket.

The working head is mounted on rollers for use in moving the machine about when the motor is not running; when the motor is running the machine is self-moving, the rollers being raised off the floor and the direction of the head controlled by tilting it slightly. The handle



Utility floor machine with encased electric motor, showing removable floor brushes suitable for various surfaces and floor coverings

has a toggle joint and an adjustment which permits it to be set at any angle the operator may prefer.

Aluminum is used for the casing, which is made water- and dust-proof. Ball bearings are used throughout, including the rollers, and the machine is practically noiseless. While all parts have been proportioned to give plenty of strength, the weight is but 45 pounds, and as there is no occasion to lift the scrubber this is very easily handled.

For concrete, marble, mosaic, tile, terrazzo and unfinished wood floors a steel wire brush is used; for scrubbing soft wood, rough wood floors, cork, tile, linoleum, rubber tile and for rubbing wax into wood floors, a palmetto brush; for polishing waxed surfaces a black tampico brush; and for sandpapering wood and cork tile floors a sandpaper disk. The brushes are set in three-ply oak faceplates soaked in linseed oil to prevent warping.

The makers state that any ordinary porter can use the machine properly after a little instruction. Scrubbing can be done, it is stated, at the rate of 2,000 square feet per hour, and waxed floors polished at the rate of 2,500 square feet per hour. For scrubbing the cheapest kind of pure grit powders, costing about 1 1/4 cents per pound, can be used, the comparatively expensive soap powders not being needed. Scrubbing with this material leaves the floors clean and not slippery.

Wood floors can not only be scrubbed and polished, but can be completely refinished, the machine removing the old finish, resurfacing by means of the sandpapering attachment, and then applying the usual polish.

The friction resulting from the use of the powerful little motor produces a finish that is much more durable than any that can be produced by the ordinary hand methods, and when wax is used the thoroughness with which it is rubbed in makes it go further than when applied with the usual weighted polisher. As the motor is small the amount of current used is slight and the running expense is low.

Pocket Chicago Used Car Report Revised

Gives Information for Zone 7 on 154 Makes of Cars in Greatly Simplified Form

The Chicago Automobile Trade Association has issued a revised edition of the pocket edition of its National Used Car Market Report which, like the first edition, is supplemental to the large book but covers only Zone 7, which centers in Chicago.

The latest book is exactly the same size as its predecessor, but despite the fact that it contains information on 154 makes of cars, as against 131 listed in the first edition, it has but 86 pages instead of 97.

A great improvement has been made in the method of listing the data and the operation of looking up information on a particular car has been considerably simplified. In the first edition information concerning the model, year type and list price was given in "run in" form and was not as easy of access as in the new form. In the new edition complete information on each model is given on a single line reading across one page, the "run in" paragraph at the end having been eliminated for the sake of clearness.

The book contains the following con-

crete information compiled from the data in the main edition on Zone 7: "U. S. Average," "As Is Sales," "As Is Appraised," the latter being derived from the appraisements made by the committees in Zones 1, 7 and 9.

National Accessory Jobbers Growing

CHICAGO, August 26—Although the National Association of Automobile Accessory Jobbers has been in existence but a little over a month, membership has increased 86 per cent since the organization meeting July 21. Apprehension is felt by officers of the association that manufacturers and jobbers not familiar with the plan and scope of the organization may harbor the idea that it is essentially a middle west project. Instead, it is truly national in character, as is revealed by the fact that it has members in cities from the Atlantic coast to the Pacific coast and from New Orleans and Florida to North Dakota. A campaign for increased membership is being prosecuted under the supervision of Wm. M. Webster, 1813 City Hall Square building, Chicago.

NAT'L USED CAR MARKET REPORT

JEFFERY

Model	Yr.	Pas. & H.P.	Cyl.	List Price	As Is Sales		Appraised	
					U. S. Aver.	Zone 7	U. S. Aver.	Zone 7
'14 2-5	4-42	\$1550	4	750n	\$ 500	488		
'14 5	6-56	2250	1450n	800	760			
'14 6	6-56	2300	1500n	800	760			
'15 2	4-22	1525	...	600	633			
'15 5	4-22	1450	1037a	550	600			
Chestrfld	'15 2-5	6-22	1650	1150a	750	767		
6	'15 7	6-34	2100	...	850	900		
'16 5	4-22	1000	...	...	...	...
'16 7	4-22	1035	...	...	...	...
Chfld	'16 2-5	6-21	1350	...	...	...
6	'16 7	6-33	2400	...	...	...

KEETON (Discontinued)

Model	Yr.	Pas. & H.P.	Cyl.	List Price	As Is Sales		Appraised	
					U. S. Aver.	Zone 7	U. S. Aver.	Zone 7
E	'13 2	6-48	\$2750	...	\$ 250	213		
E	'13 2-7	6-48	3150	...	250	213		
E	'14 2-7	6-48	3250	675a	400	333		

KING

Model	Yr.	Pas. & H.P.	Cyl.	List Price	As Is Sales		Appraised	
					U. S. Aver.	Zone 7	U. S. Aver.	Zone 7
36	'12 4	4-36	\$1565	...	\$ 100	102		
'13 2-5	4-22	1190	500n	250	178			
'14 2-5	4-30	1195	606n	300	277			
B	'15 2-5	4-25	1165	500n	400	417		
D	'15 5	8-24	1350	1000n	600	535		
'16 2-5	4-25	1075		
'16 5	8-24	1350		

Note—Only open models shown.

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NAT'L USED CAR MARKET REPORT

HUDSON

Model	Yr.	Pas. & H.P.	Cyl.	List Price	As Is Sales		Appraised	
					U. S. Aver.	Zone 7	U. S. Aver.	Zone 7
20	'10 3-4	4-20	\$1000	\$ 250n	\$ 100	97		
26	'11 3	4-26	1000	262a	150	145		
33	'11 4-5	4-22	1350	333n	200	167		
38	'12 2-5	4-22	1600	385n	300	280		
37	'13 2-5	4-37	1875	545n	450	393		
54	'13 2-5	6-54	2450	774a	600	553		
54	'13 7	6-54	2600	700n	650	573		
6-40	'14 2-6	6-30	1750	870n	750	643		
6-54	'14 7	6-54	2250	1000n	850	750		
6-40	'15 3-7	6-30	1550	1081g	750	717		
6-54	'15 7	6-27	2250	1350a	900	825		
6-40	'16 7	6-29	1350	...	...	...
6-40	'16 3	6-29	1350	...	...	...
6-54	'16 7	6-41	2250	...	...	...

HUPMOBILE

Model	Yr.	Pas. & H.P.	Cyl.	List Price	As Is Sales		Appraised	
					U. S. Aver.	Zone 7	U. S. Aver.	Zone 7
'10 2	4-20	\$ 750	\$ 167a	\$ 50	\$ 50			
'11 2-4	4-20	750	137a	100	88			
'12 4	4-20	900	262a	200	145			
'12 2	4-20	750	233n	300	123			
H	'12 2-4	4-22	975	291a	200	168		
C	'13 2	4-20	750	...	200	168		
E	'13 2	4-20	850	...	200	171		
'13 6	4-22	1175	480n	350	241			
H	'13 2-4	4-22	1000	419a	350	281		
'13 6	4-22	1200	450n	350	245			
H	'14 2-4	4-22	1050	540n	450	351		
H-A-M	'14 6	4-22	1300	...	450	351		
H-A-H	'14 2-4	4-22	1200	...	450	370		
H	'15 2-5	4-17	...	725a	600	550		
K	'15 2-5	4-18	1200	850n	600	550		
'16 2-5	4-22	1085		
'16 7	4-22	1225		

Note—Only open models shown.

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Two pages from the revised edition of the pocket National Used Car Market Report reproduced full size, showing simplified arrangement of data

Electric Parking Problem Is Solved in Chicago

**Owners Given Tags Which Permit Them
to Leave Car at Edison Company,
Which Cares for Cars—Plan
Being Extended**

CHICAGO, August 30—The downtown parking problem of the electric car owner seems to have been solved by the Electric Vehicle Association of America, which has had a plan in operation in this city for about three months. If the plan eventually proves successful it will be extended to other cities.

The method is this: An electric car owner, coming downtown, drives his car to the Commonwealth Edison Co., which is in the downtown section. He checks the car and states what time he will call for it. A uniformed hiker takes the car to Grant park, in Michigan boulevard, and parks it. The car is returned to the Commonwealth Edison Co.'s place of business at the time the owner indicated he would call.

There are rules as to how and where cars must be left by owners. They must stand on the east side of Michigan avenue, facing north. The car must be locked and the keys, attached with a special tag, delivered to the man at the control desk. The hours for service are 8 a. m. to 5 p. m., except Saturdays during July and August, when service ends at 12:30 noon. There is no Sunday service. The card used, obverse and reverse, is as follows:

Obverse Side

ELECTRIC PARKING SERVICE

OWNER
ADDRESS
LICENSE NO. CAR
GARAGE
BY

Subject to Conditions on Back Hereof

Reverse Side

THIS SERVICE is accepted upon the condition that same is entirely at owner's risk.

Under the Auspices of the

Chicago Section

**Electric Vehicle Association
of America**

REWARD if returned to

ELECTRIC SHOP

Michigan and Jackson Blvds.

The cost of the hiker service is paid for pro rata by the garage owners who are members of the Chicago Section of the E. V. A., and the service is limited to members. This cost division makes

the financial burden light. Thus far the plan has worked out excellently and there seems no reason why it should not be extended as proposed in the original plan. The extension will be in those other cities and sections where there are E. V. A. sections. These are: New England, New York, Philadelphia, Washington, Cleveland, Detroit, St. Louis, Cincinnati, Denver, Los Angeles, San Francisco, Portland, Ore., Pittsburgh, Toronto and Kansas City.

LOCOMOBILE EXCHANGE CAR SALE REPEATED

NEW YORK, August 30—Following the plan inaugurated this spring, when it staged a spring show of used cars, the New York branch of the Locomobile Co. of America on Monday, August 30, opened a summer show of guaranteed Locomobile exchange cars. As is explained in the advertisements drawing attention to the show, and which appeared in the New York Sunday papers, the cars offered for sale have been selected from among the 15 branch houses of the company. The sale will last one week. The idea of holding an exhibition of the kind is an unusual one and originated with the Locomobile Co. last year, when it disposed of \$41,000 worth of used cars and \$32,000 worth of new cars to the 800 persons who visited the salesrooms in one week. This time it is expected that these amounts will be considerably increased.

BENSON STUDEBAKER DEALER; OLLIER VICE-PRESIDENT

DETROIT, August 30—H. R. Benson has resigned as vice-president and director of the Studebaker Corp., to become distributor of Studebaker cars for the state of Maine and part of New Hampshire. His headquarters will be in Portland, Me. L. J. Ollier has been elected a vice-president and director, the title carrying with it the additional title of director of sales.

Sheepshead Parade Route Announced

NEW YORK, August 26—The route of the parade which will signalize the opening of practice September 18 for the Vincent Astor Cup race, to be held October 2 on the Sheepshead Bay Speedway, has been announced. The parade will form on 7th avenue between 53rd and 59th streets and will move from Columbus Circle south on Broadway to 47th street, east to 5th avenue, south to 4th street, and via Lafayette street to Kenmare, crossing the Williamsburg bridge, via Brooklyn Plaza to Bedford avenue, thence via Parkside avenue to Ocean avenue, direct to the speedway. S. S. Toback, A. Elliott Ranney Co., is chairman of the committee, other members being George Robertson, E. C. J. McShane and Wm. C. Poertner.

Battery Renting Service for Electrics Spreading

**Practice of Selling Cars With Rented
and Maintained Battery, Bringing
Change in Business—Standardization Needed**

NEW YORK, August 31—That the electric vehicle business in this country, both as regards passenger and commercial cars, is on the threshold of a change, is the opinion of many in the industry. What changes are expected to take place are directly traceable to the practice which is rapidly coming into vogue of renting battery service. This in turn has made it possible for dealers to sell electric cars without battery equipment and naturally enables them to quote prices all the way from \$200 to \$900 less per vehicle, depending on the style and size.

It has been the experience with practically all dealers in electric cars that lately there has been a growing demand for cars without the batteries. This has been especially true in certain New England centers and in the middle west, although in New York no appreciable demand for cars without this equipment has made itself felt. In Hartford, Conn., about 3 years ago, the practice of renting battery service was inaugurated by several of the charging stations and has proven itself to be a success. The joint idea worked out by the General Vehicle Co. and Electric Storage Battery Co. in and around Boston, whereby electric truck users may purchase vehicles without batteries and buy battery service at a fixed charge through the interchangeable battery scheme, has opened the eyes of manufacturers to at least some of the possibilities of reciprocal arrangements. This interchangeable idea has also been carried out in San Francisco, Spokane, Baltimore, Worcester, and other centers, and seemed in all cases to work out excellently. The result has been that the fever has spread throughout the field and many have gone so far as to predict that the battery proposition will work itself out on the same basis practically as the Prest-O-Lite tank arrangement, whereby the owner of one of these tanks is able to secure renewals at a nominal cost. The only difference between the two ideas seems to be that the battery will not have to be purchased but rather a fixed charge made for the service.

While as yet it is impossible to indicate a concrete and fixed idea on how the interchangeable battery renting scheme is going to work out on vehicles which are so difficult to standardize, there are many in the industry who, although they do not desire to be directly quoted, are extremely optimistic as to the eventual outcome. It is said that a Chicago man who has taken out a series of patents on different methods of effecting the battery exchange system has secured the cooperation of several New York agents who have

gathered together and worked out what may turn out to be a feasible universal battery renting system. This system and its working plans, it is stated, will be all ready for public announcement within 2 or 3 weeks. The most optimistic of those who have studied the plan state that they would not be surprised if some of the gasoline car manufacturers, especially in the truck business, would go into the business of building electric chassis for commercial use with standard battery mountings.

According to the views of the believers in the battery rental system, the only factors working against the development of the electric vehicle industry are the mileage limitation and price. With the battery rental system giving all the mileage desired and the practice of selling the car without the battery giving the reduction in price, the idea is that these two factors will be largely overcome. One of the other advantages claimed is that a car in commercial service or even in touring use, need only carry a battery of the proper size. When asked regarding the demand for cars minus battery in New York City, the representatives of the electric car interests here all stated that while there has been no appreciable demand here, in other parts of the territory there is an indication that the practice of battery rental is growing.

Grand Prize for White Trucks

CLEVELAND, August 30—The White Co. has been awarded the Grand Prize for its commercial vehicles by the award committee of the Panama-Pacific International Exposition.

IOWA DEALERS OPEN FIRST CONVENTION

DES MOINES, August 31—The first semi-annual convention of the Iowa Automobile Dealers' Association opened a two-day session here today. W. B. Taylor, of Rockford, president, Garage Owners' Association of Illinois, and Secretary E. J. McGuirk, will address the 600 Iowa dealers that will be present. Mayor Hanna, of Des Moines, will give the welcoming address, followed by an address of J. Friedman, of Dyersville, vice-president of the Iowa association, and the report of Secretary N. L. Seeman.

Syracuse Plant for Longuemare

NEW YORK, August 26—Arrangements have just been completed for the manufacture of the Longuemare carburetor at Syracuse, N. Y. Heretofore, this carburetor was only manufactured in France and was marketed by the Longuemare Carburetor Co., New York City. Some changes have been made to suit American requirements. The waterjacket which surrounded the throttle has been dropped and two changes have been made in the throttle valve; the opening through which the fuel is drawn in the idling position has been enlarged to permit a longer dwell.

National Magneto a Dixie

In the description of the twelve-cylinder National the magneto was given as a special Splittorf. This was a Dixie model made by the Splittorf Electrical Co., Newark, N. J.

Denver to License Curb Pumps and Also Garages

Ordinances Introduced Provide \$25 Annual Fee for Former and Like Sum for Each Curb Pump—65 Garages Affected

DENVER, August 28—Two Special-tax ordinances affecting the motor car business in Denver have been introduced in the city council this week and both are expected to pass when they come up for final action at the next meeting of the council. One provides for a \$25 yearly license fee for all public garages, and the other requires an annual license fee of \$25 additional for each curb pump for gasoline or oil.

Through the efforts of the Automobile Trades Association of Colorado, the license fee for garages was reduced from \$50, which the original bill provided. This organization was also instrumental in securing the introduction of the bill permitting curb pumps within specified districts. A petition for such permits was presented by the association in July and reported upon favorably by the city council committee in charge of investigating the proposition, and the ordinance for these licensed permits was drawn accordingly. The garage people expect these curb pump permits to give them a better chance to compete with the regular filling stations, of which there are now sixteen. These curb pumps will be allowed throughout the residence portion of the city, but will be barred from the main part of the business district. There are now approximately 65 regular garages in Denver coming under the license requirements.

ENGINEERS ADOPT STANDARDS

NEW YORK, August 31—As a result of the mail ballot of the Society of Automobile Engineers, all of the various Standards Committee recommendations approved at the last meeting of the Society were adopted by a large majority. The various reports adopted include:

Sixth report of carburetor fittings division covering flanges for $\frac{1}{2}$ -, $\frac{3}{4}$ -, $2\frac{1}{2}$ -, 3-, and $3\frac{1}{2}$ -inch carburetors and carburetor air heater. Seventh report of electrical equipment division covering bulb bases, sockets and connector plugs. Second report of electric vehicle division covering motor voltage, name plates and number of cells in standard battery equipment. Seventh report of iron and steel division covering vanadium steel specifications, specification No. 3330, revised steel castings specifications, elimination of gray iron specification. Sixth report of miscellaneous division covering flat fan belts and pulley widths, cotter pin sizes and brake lining sizes. Fourth report of the springs division and the report on bell housings.

Automobile Dealers Get Rice Prizes

NEW YORK, August 27—First prize in the national window display contest

promoted by the Rice Leaders of the World Association has been awarded to Thomas McBride, Troy, N. Y., for an exhibit of products of the Chalmers Knitting Co., Amsterdam; second prize went to the Stanbaugh-Thompson Co., Youngstown, O., for a display of the goods of the Winchester Repeating Arms Co., New Haven; third prize was awarded to the Union Co., Columbus, for a display of materials of the Holeproof Hosiery Co., Milwaukee. Twelve concerns representing the automobile industry shares in the prize distribution as follows. Concerns handling products of the Willys-Overland Co., Toledo; Davies-Levette Co., San Diego; Memphis Overland Co., Memphis; Atwood Automobile Co., Toledo; Overland Louisville Co., Louisville; Overland Syracuse Co., Syracuse; Bowman & Libby, Inc., Minneapolis; Dye & Gardner, Monticello, Ind.; Huntsman, Hotchkiss Overland Co., Phoenix; C. F. Miller, Long Prairie, Minn.; Overland Sioux City Co., Sioux City. Concerns handling the products of the Anderson Electric Car Co., Detroit; W. L. Huffman Automobile Co., Omaha; Electric Garage & Service Co., St. Louis.

RECOMMENDS LIGHT REGULATION IN BOSTON

BOSTON, August 26—At a meeting of the advisory committee selected to aid the Massachusetts Highway Commission in framing some legislation to govern motor headlights it was voted not to recommend any particular device to the Highway Commission, but to make a general recommendation that would allow the use of devices of various kinds.

The report drafted by the committee and those who signed it is as follows:

"We, the undersigned, comprising the advisory committee in motor headlights, in the interest of public safety recommend a regulation by the Massachusetts highway commission prohibiting the use of any headlights and searchlights which shall project their rays to a greater height than 4 feet along level ground; and requiring such lights to illuminate the ground from 6 to 10 feet from each side of the car at a point 10 feet in front of the vehicle.

"From our investigations we find that to comply with such regulations will not impose a hardship upon any owner of a motor vehicle, for there are innumerable inexpensive devices available for lowering the light rays, some of which may be easily made at home in a few minutes."

J. H. MacAlman, president Boston Automobile Dealers Assn. Prof. C. E. Stewart, Franklin Institute. Dr. Herbert T. Boyd, Bay State A. A. W. G. Renwick, Massachusetts State A. A. Lawrence G. Brooks, Highway Safety League.

The report was forwarded to the Highway Commission August 24. The commission will put some such regulation in force, and it will become a State law so that no city or town may then pass ordinances on the subject. It will not go into effect, perhaps, until late in the fall after the touring season is over, so it will not affect visiting tourists to any great extent.

10,000 See 70 Tractors Till the Soil

Bloomington Demonstration Draws Tremendous Crowd —Exhibition Circuit Likely

BLOOMINGTON, ILL., August 28—Seventy tractors, by actual count, representing nearly as many manufacturers, gave a demonstration in plowing upon a tract of 700 acres near here last week, which in point of attendance, number of machines engaged and number of sales, has had few, if any, counterparts in the history of the industry. A magnificent sight was afforded when 32 tractors, in perfect alignment, started across a 60-acre field of green stubble, with thousands of farmers following in the rear. Ten thousand spectators assembled on each side of the great field and watched the inspiring movement. Within two hours after the great cavalcade commenced operations the green tinted field has changed to jet black and the 60-acre tract was ready for sowing. It was the climax of the Middle West Tractor Farming Demonstration, which was successful far beyond anticipations.

Carl Vrooman, first assistant secretary of agriculture, was present from Wash-

ington, D. C., and gave an address before a mass meeting of the tractor manufacturers in which he stated that the tractor had come to stay, as cheap power was as important to the farmer as to the manufacturer. When the farmer is behind in his work he can always count upon the untiring tractor to rush the plowing and make up for lost time. Vrooman stated in conclusion that the federal department regards the development of the tractor industry as a national asset and is endeavoring to co-operate in extending this line of endeavor.

At a meeting held here during the week there was a discussion concerning subsequent demonstrations. It was the general sentiment that hereafter there should be but one demonstration in each state, some central point being selected. Owing to the enormous expense involved in moving the tractors from point to point, each requiring a large force of men to handle for shipment, it was felt that exhibitions should be restricted, the city making the best proposition to be given the annual location. It was suggested that a circuit of the middle western states be made up and all tractors selected for demonstrations being moved together upon a

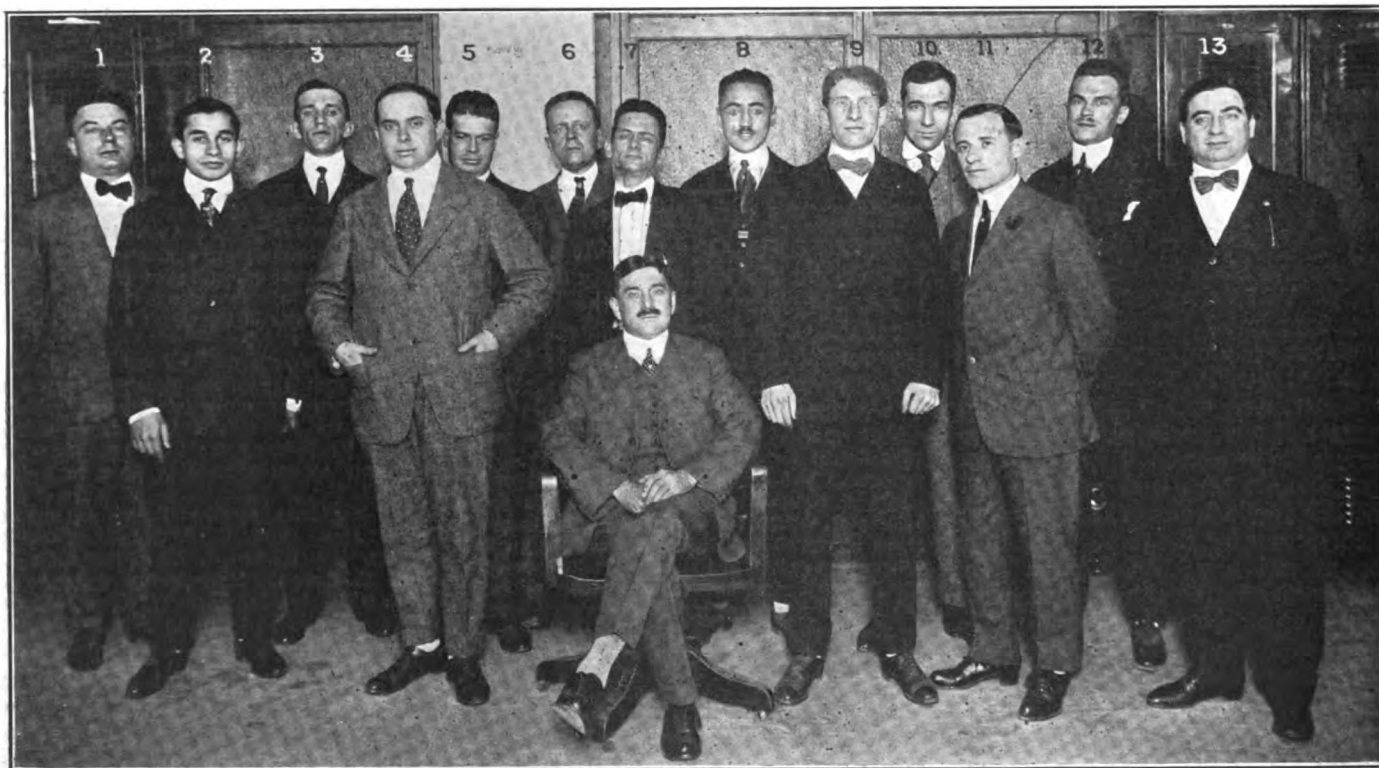
special train, thus saving expense for each manufacturer. By making a circular tour and avoidance of doubling back the schedule could be carried out with the minimum of expense and the maximum of results. There will be a meeting of the tractor manufacturers probably in Chicago later in the fall or winter to decide upon a course of action for next year's demonstrations.

More than 50,000 farmers witnessed last week's demonstration, the crowds ranging from 8,000 to 10,000 daily. It was agreed that the event was one of the most successful in the history of the industry.

Grossman Sales Department Holds Annual Convention

NEW YORK, August 31—At the annual sales convention of the Emil Grossman Mfg. Co., Bush Terminal, Brooklyn, held August 27 and 28, it was brought out that since January, 1915, more than 500 new customers had been added to the books of the concern, the increase of business for the year being more than 50 per cent. One of the contracts recently closed was for 75,000 Red Head Big Boy plugs for equipment on Willys-Knight cars. Friday evening the members of the convention were entertained at dinner and a theater party and on Saturday evening there was a banquet.

Sales Representatives of the Emil Grossman Mfg. Co. Convened at Factory August 27-28



(1) Harry G. Wedler; (2) M. S. Rosen, engineer; (3) A. E. Rosenberg; (4) L. M. Schwartz, secretary; (5) J. E. Vidal, representative in Cuba, Porto Rico, Central and South America; (6)

EMIL GROSSMAN, President

Nelson T. Gutelius, advertising manager; (7) E. C. Delgado, assistant treasurer; (8) W. M. Farans; (9) Joseph N. Lowe, vice-president;

(10) P. L. McIlvaine, exports; (11) S. S. Waldman, purchasing agent; (12) R. R. Rosenquist; (13) A. A. Greene, in charge of sales to manufacturers.

Association News

CONTROLLING GASOLINE PRICE

DES MOINES, August 26—The Iowa Automobile Business Association is at present actively pushing its work of obtaining new members. Much of this work is carried on through the medium of noon-day luncheons which are held every Tuesday. The gasoline situation with which the association has been wrestling remains about the same, fuel selling at from 10 to 12½ cents. In this respect the good work which has been done by Secretary N. T. Miller is an excellent example of the results which can be obtained by organizations. When some outsiders a short time ago commenced selling gasoline at 10 cents, some of the members followed suit and others reduced their price to 9 cents. When the tank wagon price was 9.6 cents, some of the members wanted to reduce further to 8.6 cents, which is the 100-gallon lot price. In consequence, there was much dissatisfaction, until Secretary Miller got out among the members and in three days succeeded in having the 9-cent signs and most of the 10-cent signs changed to 11 cents. The Iowa association has little or nothing to do with the subject of the annual show, though the members are of one opinion that manufacturers should come to some agreement under which all new car announcements should be made at approximately the same time.

NOVEMBER ANNOUNCEMENTS

MINNEAPOLIS, August 25—At the meeting of the Minneapolis Automobile Trade Association last week, of which R. B. Simning is assistant secretary, the principal subject to engross the attention of members was the proper time for manufacturers to announce their new models.

The members were unanimous in favor of announcements being made in November, and a petition to that effect, signed by all the Minneapolis dealers, has been forwarded to the National Automobile Chamber of Commerce, which at present has a committee working on this question. It seems likely that President H. E. Pence will appear before the Chamber in the interest of the Minneapolis dealers. It was pointed out at the meeting that the present practice of announcing new models during the height of the selling season keeps the market in Minneapolis territory in a constant upheaval, practically killing all opportunity for the distributor to do any winter business. It was also pointed out that if the new models were brought out in November there would then be an opportunity of exhibiting new cars at the

National Shows instead of cars that have been on the market for perhaps six or eight months.

I am particularly interested in your section of the Motor World devoted to association news. It gives me an opportunity of seeing what other associations are doing, and when anything new appears there is a chance to use it if it fits our work.

Arthur D'Ettel, Secretary,
Garage Owners Protective Assn. of
San Francisco.

WIDE-AWAKE BULLETINS

CHICAGO, August 26—By way of increasing its value to members, the recently formed Electric Garage Owners & Dealers Association of Chicago has commenced publication and distribution of a series of "Wide-Awake Bulletins." These are being prepared under the supervision of Gail Reed of the passenger car division of the Walker Vehicle Co. It is planned to make the organization a clearing house for good ideas originated by members of the association. These will be distributed in bulletin form. No. 1, just issued, emphasizes the value of adopting another man's idea and adapting it for use. No. 2 makes plain the necessity for regular and careful thought.

MICHIGAN GETS LIEN LAW

DETROIT, August 26 — Largely through the efforts of the Garage Owners Association of Michigan, of which L. C. Steers is secretary, the Michigan Garage Lien Law, styled Act No. 176, was passed some 90 days ago and now has become a law. The Michigan association is now sending out letters to all members calling attention to the provisions of the measure and emphasizing its importance. With each letter there is enclosed a copy of the law.

DENVER GETS CURB PUMPS

DENVER, August 26—By way of stimulating interest in its own organization the Automobile Trades Association of Colorado is sending out to members a series of bulletins, of which No. 11 has just been issued. This calls attention to the fact that the organization is co-operating with the International Soil Products Exposition and that it will promote an automobile show, September 27 to October 9 in a special building which will be built for the purpose; contracts already have been signed for 2,500 feet

of space and it is expected that the total will be 7,500 square feet. Through the efforts of the association an ordinance was introduced August 23 permitting the installation of curb pumps in front of garages. The bulletin also states that the association is co-operating with Motor World in its Campaign for Greater Profits and cleaner garages. Meetings of the association held lately have been well attended.

PEORIA CONVENTION OCT. 8-9

CHICAGO, August 26—The Chicago Garage Owners Association decided at its last meeting to change the date of the convention of the Garage Owners Association of Illinois scheduled to be held in Peoria from September 17-18 to October 8-9, because of possible interference of the state fair in Springfield. It was also decided that about September 25 members of the association will have a big get-together meeting in the form of a banquet, at either the Morrison or La Salle hotel. It is planned to have the meeting addressed by many prominent men of the industry and it is confidently expected that the gathering will influence many to attend the Peoria convention. The Chicago association has elected 12 delegates, including the officers of the organization, to attend the Peoria convention.

NO SHOW AT ASBURY

ASBURY PARK, N. J., August 24—The Sea Shore Automobile Trade Association of New Jersey, C. R. Zacharias, secretary and treasurer, has decided definitely that it will hold no show this year. With the help of Atlantic City dealers the association has just been successful in having a lien law passed. This is similar to other measures of the kind.

TOPEKA'S SHOW BUILDING

TOPEKA, KAN., August 21—After a period of inactivity, the Topeka Motor Car Dealers Association has again taken up its work. The old officers are continued without change. The principal work which the association has in hand at present is the erection of a permanent building on the State Fair Grounds for exhibition purposes and to be known as Motor Hall. This is the property of the members of the association, who have subscribed for it pro rata. Of the 17 members of the organization 12 have subscribed for the construction of the building.

W. H. Imes, who is secretary of the association, is chairman of the Building Committee, the other members being James Cowdrey, Cadillac Sales Co.; H. H. Southwick, Southwick Auto Supply Co.; E. B. Kellam, Franklin dealer. The state fair has leased a building site to the association for a term of 99 years.

The association is at present making arrangements to affiliate with the Merchants Credit Association of Topeka and will endeavor to control better credits.

H. Warren Terry Passes Away

PHILADELPHIA, August 28—Word reached here yesterday of the death of H. Warren Terry, assistant secretary of the Philadelphia Automobile Trade Association, which occurred at Chatham, Mass., where he was spending the summer with his wife and son. His death was sudden and occurred on his return from a fishing trip with his son.

Fuller Opens Manchester Agency

BOSTON, August 28—Alvan T. Fuller, Packard dealer in Boston, Portland, Me., and Providence, R. I., has added Manchester, N. H., to his list, having opened an agency there last week on Merrimac street. As Fuller went there personally to arrange for the opening, that action dispels the rumor that he had sold out to the Packard Motor Car Co., Detroit, to which company he recently sold his big service station in Boston. F. B. Freeman has been placed in charge of the Manchester agency.

Denver Fall Show Filling

DENVER, August 28—Eight motor car and accessory dealers have contracted for space for the two weeks' fall show to be held in Denver in connection with the International Soil Products Exposition, September 26 to October 10, twelve more have formally applied for space but have not yet signed up, and another eight are counted upon if they are able to get the necessary shipment of cars. The committee in charge of the show arrangements is composed of Tom Botterill, chairman; Finlay L. MacFarland and R. R. Hall.

National Adds Two Buildings

INDIANAPOLIS, August 28—The National Motor Vehicle Co. is erecting two additions to its plant, both two stories in height, one 278 x 38 feet, and the other 400 x 80 feet. Both are concrete and steel. One of the buildings will house the offices.

No Lending of Tags in Pennsy

PHILADELPHIA, August 26—According to a ruling of the State Highway Commissioner of Pennsylvania, dealers are forbidden to lend their license tags to purchasers of cars pending the arrival of purchasers' tags.

Hartford Auto Parts Moves

HARTFORD, CONN., August 26—The Hartford Auto Parts Co. is to leave Hartford and locate in New Britain in the very near future. The present location in the Colts' west armory must be vacated by October 1. A two-story brick factory, 200 x 60 feet will be built.

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

Roy W. Dean has been appointed sales representative for the Clem Automobile Co., Dallas.

E. R. Nachtrib, formerly factory representative of the Willys-Overland Co., Toledo, has been appointed assistant to Manager Taxis of the Dallas branch.

George Gaston has been appointed district representative for the Cadillac Motor Car Co. in Dallas. His territory embraces Texas, Missouri, Kansas, Oklahoma, Arkansas and Louisiana.

R. M. Beck, formerly connected with the Cole company, has been made manager of sales of the Brachear Motor Car Co., Columbus, O., Cole and Studebaker dealer.

Charles H. Minto has been appointed manager of the tire department of the United States Rubber Co. of California, San Francisco.

W. R. Bamford has been made production manager of the Detroit Motor Car Co., Detroit.

N. F. Ernst has been made manager of the Metz factory branch in Minneapolis. Formerly he was in charge of the Utica, N. Y., branch.

B. R. Hayden has joined the King Motor Co. of Chicago in the capacity of sales manager.

G. W. Franklin has resigned from the Wetmore-Quinn Co. to join the A. A. Crumley Co., Michigan state distributor for the King Motor Car Co., as sales manager.

Bert Collins, late of the Studebaker Corp., has joined the King Motor Car Co. as a special factory salesman. His position is a new one created for the purpose of making jumps to certain points where cooperation with dealers, old or prospective, is needed. He will have no particular territory under his jurisdiction.

Frank H. Smith, formerly with the Studebaker Corp. and later northwest district manager for the Hudson Motor Car Co., has joined the sales force of the Chalmers Motor Co. in the capacity of special representative.

R. S. Bryant, for many years consulting engineer of the Standard Welding Co., Cleveland, has been appointed factory manager in charge of all manufacturing.

R. G. Coghlan, eastern sales manager of the Lovell-McConnell Mfg. Co., has

resigned to become associated with the Moon Motor Car Co. of N. Y., in the capacity of district manager.

Polhamus Out of Wayne Pump

SOUTH BEND, IND., August 28—A. Z. Polhamus, chairman of the executive board of the S. F. Bowser Oil Tank & Pump Co., Fort Wayne, has resigned from that position after serving the company in various capacities for 25 years. He started with the firm in 1890 as superintendent of salesmen, later becoming assistant manager. He was a stockholder, a director and secretary-treasurer of the firm when it was incorporated in 1898. In 1904 he was chosen general manager and held that position until 1914, when he was made chairman of the executive board.

Injunction Against Splitdorf Denied

TRENTON, N. J., August 27—The injunction sought by Sidney S. Meyers, a stockholder of the Splitdorf Electrical Co., Newark, against that company to restrain it from paying \$1,000,000 for a patent on a high-tension magneto to the Sumter Electrical Co., Sumter, S. C., has been denied by Vice-chancellor Beckes in the Chancery Court today. Mr. Meyers, who thought the payment too large, will make an appeal. In connection with the purchase of the Sumter company's patent the Splitdorf company planned to acquire the southern concern.

Rutenber Increases Facilities

MARION, IND., August 25—The Rutenber Motor Co. is just completing four new buildings, increasing the floor space 25,000 feet, an increase of about 25 per cent. A large battery of automatic screw machines, multiple spindle drill presses, etc., has just been installed and the annual output has been increased from 12,000 to approximately 18,000 motors.

Smith Heads Cleveland-Ford Tire Co.

CLEVELAND, O., August 26—J. L. Smith was elected president and P. C. Remick vice-president of the Cleveland-Ford Tire Co. at a recent meeting of the directors. Other officers elected were: W. J. Leinbach, secretary-treasurer, and A. E. Pearce, general manager. The directors named were J. L. Smith, P. C. Remick, W. J. Leinbach, F. L. Kerr and A. E. Pearce. Work on the new factory, to be located at the north end of Benefit street, Ashtabula, O., will likely begin within a few days. The main building is to be 300 x 46 feet, with a wing 60 x 50 feet. Although the name of the company indicates that it may make nothing but Ford tires, this is not the case. Molds and cores for the larger sizes of tires have already been ordered, and it is thought this stock will be available within 60 days. The sizes to be manufactured will run up to 37 x 5½.

Chicago Electric Price Reduced; Battery Rented

Walker Vehicle Sells Car Without Battery, Which Is Rented at \$20 a Month Including Maintenance—Few Constructional Changes

CHICAGO, August 30—Large reductions have been made in the prices of all the Chicago electric cars, manufactured by the Walker Vehicle Co., 545 W. 39th street, and a new policy has been adopted with regard to batteries. Purchasers may have cars without battery at \$270 less than full price, and arrangements have been completed so that purchasers may rent a battery for \$20 per month for the first year and \$16 per month for the following years. Batteries will be kept in repair by the renting concern and parts renewed free of charge if the capacity falls below 80 per cent of normal.

The old and new prices, including batteries, follow:

	1915	1916
Model 151, 4-passenger, rear drive...	\$2,600	\$1,985
Model 152, 5-passenger, front drive...	2,800	2,150
Model 153, 4-passenger, rear drive...	2,600	1,985
Model 154, 4-pass., cabriolet roadster	2,600	1,985

All are enclosed cars. No changes of importance have been made in construction; the bodies are of the limousine type with arched doors, aluminum is more extensively used than formerly, a new finishing process is employed, fenders are of a new crowned design, windows are sashless and of greatly improved construction, and a full equipment is provided. In the chassis the lubrication system has been much improved and bearings that have shown undue wear have been made more durable. The driving system, with direct connected slow-speed motor, worm bevel rear axle and continuous torque controller are practically unchanged.

Gilmore Loses Oldest Son

BOSTON, August 28—E. A. Gilmore, one of the pioneer dealers in Boston and for some years with the White branch in New York, lost his eldest child, Charles, aged 10, last week when the lad was drowned in the Charles river near their home in Newton.

More Space for Detroit Trailer

DETROIT, August 28—The Detroit Trailer Co., Inc., is moving into its new factory which has just been completed. The new building is located at 671-675 Atwater street, East.

Traffic Managers To Meet

NEW YORK, August 27—For the purpose of taking up the matter of delays in transit of automobiles and to

arrange the classification on automobile parts, a meeting of traffic managers representing all the automobile factories in this country that are members of the National Automobile Chamber of Commerce, Inc., will be held at the Board of Commerce building, Detroit, at 10 a. m., September 14.

Toronto Plant For Chevrolet

TORONTO, ONT., August 26—The Chevrolet Motor Co. of Canada, Toronto, will on October 1 take possession of the plant of the Dominion Carriage Co., Ltd., West Toronto, which it has purchased. The company hopes to have cars ready for delivery in three months. It is exhibiting a model 490 at the Canadian National Fair at Toronto, which will sell at \$660 f. o. b. Toronto.

Glide Concentrates on Six

PEORIA, ILL., August 30—For 1916 the Bartholomew Co. will make a five-passenger six instead of a four; the new model will be known as the six-40 and will sell for \$1,095. The power plant is a 3 x 5 Rutenber with dry disk clutch and gearset in unit. Ignition and lighting equipment is Westinghouse make. Wheelbase is 119 inches and tires 34 x 4. In addition to the open touring model there is a detachable top sedan.

Wide-Tread Oldsmobiles for South

LANSING, MICH., August 26—The Olds Motor Works is supplying its vehicles with wide treads for southern trade. Lengthening of axle shafts has been obviated by the use of specially constructed wire wheels which are finished in light red enamel. Model 43 touring and roadster lists at \$1,162.50.

Harvard Light Car from Troy and Lists at \$750

Pioneer Motor Car Co. to Produce Four-Cylinder Car With Complete Equipment—Wheelbase 100 Inches and Tread 44 Inches

The Harvard light car, manufactured by the Pioneer Motor Car Co., Troy, N. Y., sells for \$750 with full equipment, including electric lighting and starting, pantasote top, windshield, Klaxet horn, speedometer and other requisites. The wheelbase is 100 inches, tread 44 inches, tires 28 x 3, on either wood or Spranger wire wheels with demountable rims. The body is of sheet steel. The four-cylinder motor has block-cast L-head cylinders, $2\frac{3}{4}$ x $4\frac{1}{2}$, with integral intake and exhaust manifolds and aluminum crankcase. The Carter carburetor is fed from a 7-gallon cowl tank; ignition is by Bosch magnet and lubrication by splash. The crankshaft has two bearings lined with babbitt. Power is transmitted through a multiple disk clutch and three-speed gearset in unit with the motor, Blood Bros. universal and enclosed propeller shaft to the ball- and roller-bearing semi-floating axle. Springs are quarter-elliptics both front and rear.

East St. Louis Regulates Filling

EAST ST. LOUIS, MO., August 25—The city council has passed an ordinance forbidding the filling of tanks while the engine in the car is running or lights other than electric are lighted.

Dealer Factory Visitors of the Week

PAIGE-DETROIT MOTOR CAR CO.

E. L. Smith.....	Howell, Mich.
Sherril Sherman.....	Utica, N. Y.
C. G. Wooley, S. E. Dibbone.....	Sidney, O.
W. Y. McGinnis.....	Bowling Green, Ky.
C. J. Snyder.....	Napoleon, O.
J. C. Neikirk.....	Republic, O.
C. M. Slangenaupt.....	Dayton
C. L. Sturtevant.....	Toledo
H. A. Porter.....	Grand Rapids, Mich.
J. B. Sperry, Paige Motor Co. of R. I.	Providence
Edwin A. Briel, J. J. Schwab.....	Louisville
F. E. Spawn.....	Binghamton, N. Y.
J. L. Hoppes.....	Farmland, Ind.
Ivan E. Brand.....	Corruna, Mich.
Thos. C. Orrell.....	Kalamazoo, Mich.
D. S. Hoover.....	Mansfield, O.
W. J. Ross.....	Toronto, Ont.
A. C. Pitcher.....	Troy, N. Y.
Haeley & Gavin.....	Olean, N. Y.
A. J. Pratt.....	Sterling, Ill.
A. Squier, R. C. Lawe.....	Ovid, Mich.
S. D. Bolton, Bolton A. Co.....	Saginaw, Mich.
E. S. Paynter.....	Marion, Ind.
Hermann W. Newell.....	Bellefontaine, O.
John A. McLaughlin.....	Columbus, O.
W. S. Jacobs, Monticello A. & G. Co.,	Clarksburg, W. Va.
W. J. Dabney.....	Atlanta, Ga.
H. Higgenbottom.....	Watertown, S. D.
H. A. Porter.....	Grand Rapids, Mich.
R. D. Rockstead.....	Milwaukee
Geo. H. Baldner.....	Xenia, O.
Chester T. Schieffer.....	Ft. Wayne, Ind.
W. H. Dellinger.....	Magley, Ind.
L. R. Hull.....	Middleton, Mich.
R. W. Borfe, Glenman & Smith M. Co.,	Norfolk, Va.

F. C. Blackman, Oakland Garage.....	Oakland, Ill.
Charles H. Knoll.....	Richmond, Ind.
Nels A. Fruland.....	Ottawa, Ill.
Douglas B. Crane.....	Oklahoma City, Okla.
C. A. Riggle.....	Goshen, Ind.
Geo. R. Dunlop.....	Cadillac, Mich.
Rock J. Gervas, Sam'l J. Mitchell,	Marquette, Mich.

D. P. Hart.....	Washington, Pa.
Arthur D. Ort.....	South Bend, Ind.
B. V. James.....	Watertown, N. Y.
N. U. Nunn.....	Newcastle, Pa.
W. U. Ramsey.....	Newcastle, Pa.
F. D. Shaver.....	Bay City, Mich.
Dr. F. G. Olp, Bolton Auto Co.	Saginaw, Mich.

PACKARD MOTOR CAR CO.

R. N. Goode, Packard Motor Car Co. of Paris	Paris, France
J. W. Tarbill, Citizens M. C. Co.....	Cincinnati
M. Perkins, The Motormart.....	Youngstown, O.
I. L. Berk, Packard M. C. Co. of Pittsburgh	Pittsburgh
F. J. Emmerich, Packard M. C. Co. of Phila.	Philadelphia
L. R. Mack.....	Albany, N. Y.

SAXON MOTOR CO.

W. E. Wheeler, Northwestern A. Co.	Minneapolis
Phelps Ferris.....	Big Rapids, Mich.
A. S. Hill.....	Port Huron, Mich.
W. L. Schoof.....	Macomb, Mich.
Orville Dennis.....	Lake City, Mich.
Frank Palmer.....	Battle Creek

WESTCOTT MOTOR CAR CO.

L. A. Mazza.....	Olean, N. Y.
Ed. W. Oehler.....	Milwaukee
Mr. Ulery, Ulery & Forgy.....	New Carlisle
O. E. Powell.....	Washington C. H., O.
Chas. S. Burke.....	Springfield, O.

Motor Car Dealers Recently Established

PLEASURE CARS

ALABAMA		
Place	Car	Dealer
Opelika	Abbott-Detroit	C. R. Summers
ARIZONA		
Douglas	Oldsmobile	E. B. Pirtle Co., Inc.
ARKANSAS		
Lake Village	Hupmobile	E. L. Davis
Little Rock	King	U. S. Motor Co.
Marianna	Hupmobile	B. D. Jarrett

ALABAMA

Birmingham	Willis-Knight	The Overland
		Birmingham Co.

CALIFORNIA

Los Angeles	Paige	Smith Brothers
Oxnard	Dodge	Oxnard Garage
Oxnard	Hudson	Oxnard Garage
Pomona	Chandler	Potter & McCormack
Porterville	Dodge	J. W. Stephens
Redlands	Maxwell	Hatfield & Ayres
Ventura	Ford	Claude C. Needham
Visalia	Dodge	Charette-Pennebaker Co.

COLORADO

Aspen	Saxon	Gerbaz & McPhee
Boulder	Saxon	B. C. Garbarino
Cheyenne Wells	Dort	T. C. Turner
Colorado Springs	Oldsmobile	Silver State Auto Co.
Colorado Springs	Oldsmobile	Geo. E. Elstun
Cripple Creek	Dort	E. J. Williams
Cripple Creek	Saxon	Clark Supply Co.
Deertrail	Dort	G. I. Williams
Denver	Jackson	Regal Sales Co.
Denver	Paige	L. G. Palmer
Denver	Cole	Colorado Motor Car Co.
Denver	Regal	Regal Sales Co.
Denver	Chalmers	E. J. Johnson
Fort Collins	Buick	G. Harold D. Parker
Fort Collins	Reo	Jackson-Ankney Merc. Co.
Fort Collins	Saxon	G. Harold D. Parker
Fort Morgan	Reo	A. C. Gillette
Glenwood Springs	Cole	Bert Patrini
Grand Junction	Paige	Western Colorado Motor Sales Co.
Greeley	Buick	Weld County Garage
Greeley	Reo	J. B. McCutcheon
Greeley	Dort	Lee Bros.
Hayden	Cole	Dawson Auto Co.
Hayden	Saxon	G. W. Garland
Hugo	Saxon	Cobb & Hatton
Lamar	Saxon	Hartman Auto Co.
Longmont	Saxon	Shaw & Shickle
Loveland	Reo	Anderson & Griffin
Placerville	Dort	M. B. Stone
Pueblo	Paige	Spitzer Bros.
Steamboat Springs	Oakland	L. I. Brown
Trinidad	Paige	George D. Single
Trinidad	Cole	Trinidad Garage Co.
Windsor	Reo	P. A. Bartz

DELAWARE

Wilmington	Chandler	Delmar Auto Co.
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GEORGIA

Eastman	Hupmobile	F. A. Roberts
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ILLINOIS

Aurora	Hupmobile	Hobbs Garage
Joliet	Detroit	W. H. Scheik
Princeton	Chandler	Miles S. Fox

INDIANA

Richmond	Detroit	Geo. H. Schultz
Roann	Oldsmobile	J. E. Clingaman
Rushville	Hupmobile	Clark & Caldwell

IOWA

Council Bluffs	Chandler	Kimball Tire Case Co.
Des Moines	Herr-Brooks	Pegau Auto Co.
Des Moines	Auburn	Iowa Motor Sales Co.
Earling	Chandler	F. W. Wilmerding
Gilmore City	Chandler	H. Mulholland
Humboldt	Hupmobile	Fahns & Son
Indianola	Hupmobile	E. L. Hazel
Newell	Chandler	W. D. Rust & Son
Stanton	Chandler	C. J. Anderson
Tracer	Chandler	T. F. Cohort
Webster City	Overland	Webster City Auto Co.
Whittemore	Hupmobile	T. S. McGovern

KANSAS

Bellefonte	Saxon	Hugh Van Natta
Cawker City	Hupmobile	P. H. Schroeder
Dodge City	King	Howell & Binehart Co.
Haviland	Auburn	V. B. Clements
Hutchinson	Oldsmobile	Walt & Benson
Hutchinson	Dodge	Arnold Brothers
Hutchinson	Chalmers	Arnold Brothers
Lawrence	Hupmobile	Lawrence Auto Co.
Phillipsburg	Chandler	W. H. Champin

KENTUCKY

Fort Thomas	Chandler	Highland Auto & Garage Co.
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MAINE

Greenville	Chandler	W. B. Dalley
Waldboro	Oldsmobile	C. A. Fulk & Bro.

MARYLAND

Gaithersburg	Chandler	C. B. Stahl
Oakland	Chandler	Bavenscroft Garage
Oakland	Chandler	Bavenscroft Garage

MASSACHUSETTS

Place	Car	Dealer
Boston	Detroit	Geo. G. Reed
Webster	King	Robert V. Camidy

MICHIGAN

Battle Creek	Chalmers	Jackson Garage
Beaumont	Oldsmobile	Graham & Pecard
Escanaba	Dodge	John E. Jackson
Farmington	Oakland	William Goers
Ida	Oldsmobile	N. A. Wilepert & Son
Jackson	Paige	Temple Garage
Lowell	Hupmobile	Dr. E. D. McQueen
Niles	Studebaker	Felix La Cosse
Pottsville	Ford	Phaner Bros.
Sault Ste. Marie	Dodge	Wynn Auto Sales Co.
Sault Ste. Marie	Oakland	J. L. Limpsett

MINNESOTA

Anoka	Dodge	Webster R. Smith Co.
Fairfax	Hupmobile	Reuben Sell
Glenwood	King	E. W. Brokaw
Hayfield	Apperson	Oscar Gulbranson
Herman	Apperson	A. W. Wells
Kasson	Oldsmobile	Atterness Bros.
Lewiston	Oldsmobile	F. E. Franks
Jordan	Apperson	B. C. Young
Long Prairie	King	Hansman Auto Co.
Minneapolis	Kiesel	Barclay Auto Co.
Pine Island	Ford	Skillman & Afton
St. Paul	Kiesel	J. F. Lynch
Virginia	Hudson	George Mesberg
Winnebago	Apperson	Fred Barmore

MISSOURI

Glasgow	Hupmobile	Emmett Ballen
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NEW HAMPSHIRE

Portsmouth	Oldsmobile	Portsmouth Motor Mart
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Motor Car Securities Quotations

No quotations for the corresponding date in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	August 28, 1915	1914
Ajax-Grieb Rubber Co., com.	380	380
Ajax-Grieb Rubber Co., pfd.	101	101
Aluminum Castings, pfd.	100	100
Chalmers Motor Co., com.	204	204
Chalmers Motor Co., pfd.	85	85
Firestone Tire & Rubber Co., com.	235	235
Firestone Tire & Rubber Co., pfd.	111	111
General Motors Co., com.	210	210
General Motors Co., pfd.	100 1/2	100 1/2
B. F. Goodrich Co., com.	62	62
B. F. Goodrich Co., pfd.	100	100
Goodyear Tire & Rubber Co., com.	270	270
Goodyear Tire & Rubber Co., pfd.	100 1/2	100 1/2
International Motor Co., com.	25	25
International Motor Co., pfd.	50	50
Kelly-Springfield Tire Co., com.	185	185
Kelly-Springfield Tire Co., 1st pfd.	85	85
Kelly-Springfield Tire Co., 2nd pfd.	125	125
Maxwell Motor Co., com.	42	42 1/2
Maxwell Motor Co., 1st pfd.	90	90
Maxwell Motor Co., 2nd pfd.	35	35
Miller Rubber Co., com.	190	190
Miller Rubber Co., pfd.	107 1/2	107 1/2
Packard Motor Co., com.	117	117
Packard Motor Co., pfd.	100	100
Peerless Motor Car Co., com.	140	140
Portage Rubber Co., com.	46	46
Portage Rubber Co., pfd.	93	93
*Reo Motor Truck Co., com.	49	49 1/2
*Reo Motor Car Co., com.	33	34 1/2
Stewart-Warner Speed. Corp., com.	65	65
Stewart-Warner Speed. Corp., pfd.	105	107
Studebaker Corp., com.	111 1/2	112 1/2
Studebaker Corp., pfd.	103	105
Swinehart Tire & Rubber Co., com.	88	89
U. S. Rubber Co., com.	49	51
U. S. Rubber Co., 1st pfd.	103	105
White Co., pfd.	110	110
Willis-Overland Co., com.	182	184
Willis-Overland Co., pfd.	106	106 1/2

*Par value \$10; all others par value \$100.

Coming Events

*Indicates sanction by A. A. A.

Sept. 4	Twin City, Minn.—Speedway race meet, Twin City Motor Speedway.*
Sept. 11	Burlington, Ia.—Track race meet, Tri-State Affair.
Sept. 18	Providence, R. I.—Speedway race meet, Narragansett Park Speedway.*
Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Sept. 20-21	Rockford, Ill., Fall reliability run, Rockford Motor Car Dealers' Assn.
Sept. 25	Chicago, Ill., "Get-together" meeting, Chicago Garage Owners' Assn.
Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
Oct. 2	New York—Speedway race meet, Sheepshead Bay Speedway Corp.
Oct. 4, 5 and 6	Columbus, O.—State convention; Columbus Garage Owners' Association.
October 7	Grand Rapids, Mich., Convention of the Garage Owners' Association of Michigan.
Oct. 8-9	Peoria, Ill., Convention of Garage Owners' Assn. of Ill.
Oct. 9	Indianapolis, Ind.—100-mile Invitation Race, Motor Speedway.
Oct. 16	Chicago—Speedway race meet, Speedway Park Association.*
Oct. 18-19	Cleveland, O.; Hotel Statler; Sixth Annual Convention, Electric Vehicle Assn. of America.

THE SHOW CIRCUIT

Sept. 6-10	Indianapolis, Ind.; show, Indiana State Fair.
Sept. 6-9	Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.
Sept. 6-11	Rockford, Ill., Fall tent show, Rockford Motor Car Dealers' Assn.
Sept. 6-15	Detroit, Mich.; show, Michigan State Fair.

Sept. 13-17	Milwaukee, Wis.; show at State Fair by Milwaukee Automobile Dealers, Inc.
Sept. 18-25	Los Angeles, Cal.; Broadway Automobile and Flower show, Automobile Dealers Assn.
Sept. 22-25	Reading, Pa., show, Hotel Berkshire.
Sept. 27-Oct. 10	Denver, Col.; show, International Soil Products Exposition, Automobile Trades Assn. of Colorado.
Oct.	Dallas, Tex.; show, Dallas Automobile Dealers Assn.
Oct. 2-9	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Oct. 3-10	Annual show, St. Louis Automobile Mfgs. & Dealers Association.
Oct. 4-9	St. Louis, Mo., ninth annual show, St. Louis Automobile Manufacturers' and Dealers' Assn.
Oct. 4-14	Wichita, Kan., show, Wichita Auto Dealers' Assn.
Oct. 6-16	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Oct. 18-25	Troy, N. Y., show, Armory; Troy Automobile Dealers' Assn.
Nov. 1-3	Pasadena, Cal.; show; Hotel Green. Walter Hempel.
January 1-8	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
Jan. 8-15	Philadelphia, Pa., show, Philadelphia Automobile Trade Assn.
January 22-29	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
Jan. 29-Feb. 5	Minneapolis Winter Show; Minneapolis Automobile Trade Assn., National Guard Armory.
Feb. 15-20	Omaha, Neb., 10th annual show, Omaha Automobile Show Assn.
March 4-11	Boston, Mass.—Fourteenth Annual Show; Boston Automobile Dealers Assn.; Boston Commercial Vehicle Assn.

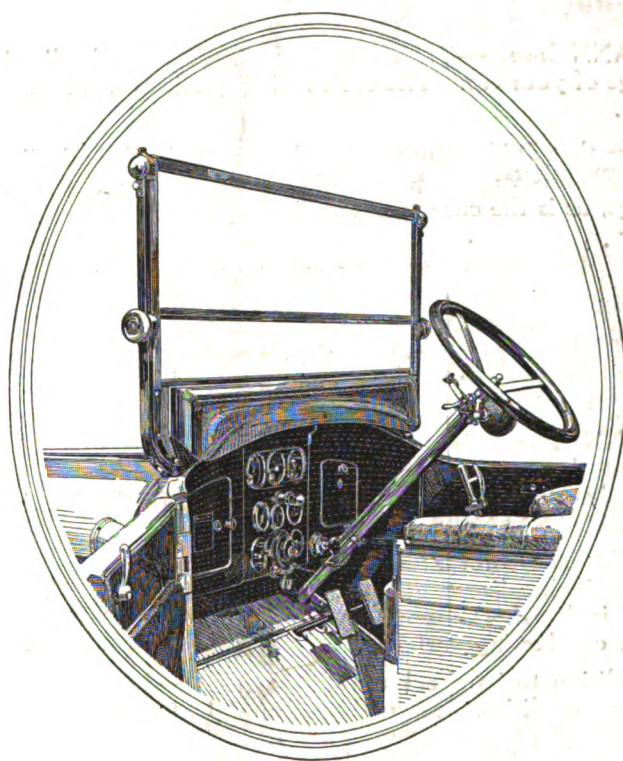
MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 10

New York, September 8, 1915

Ten cents a copy
Two dollars a year



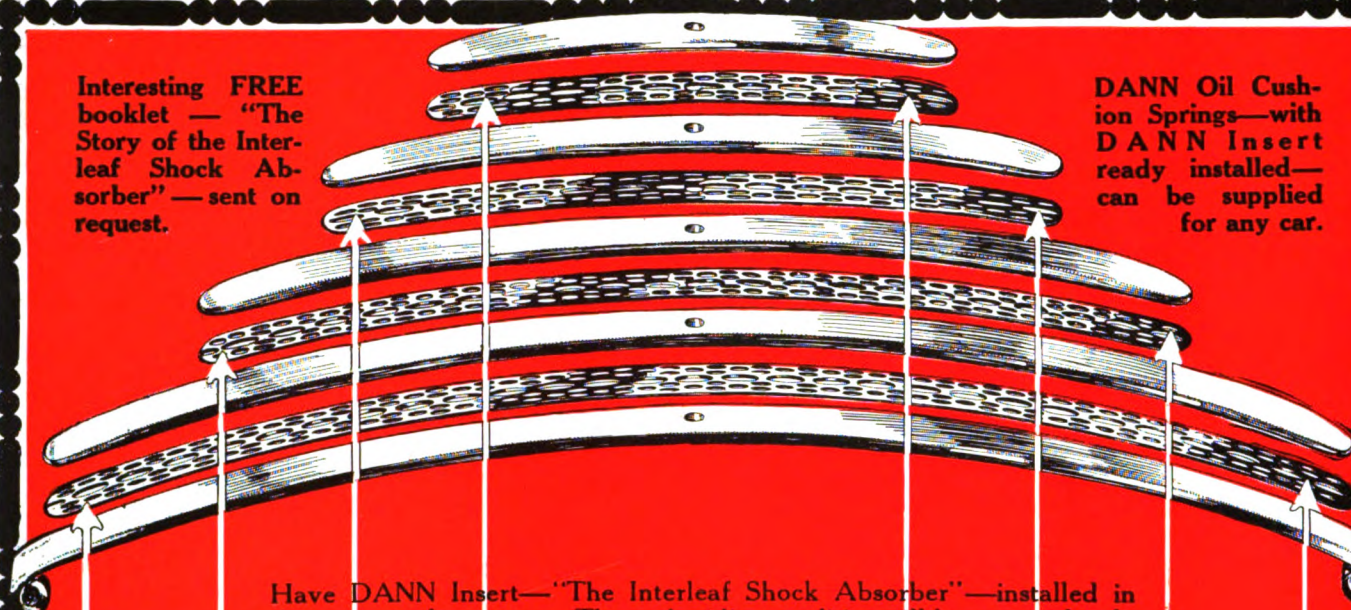
Pierce-Arrow

The control is simple and convenient. A touch of the finger or foot starts or stops the motor. Spark and throttle may be operated without taking either hand from the wheel. The driver sits at the right, the safe and correct position for American rules of the road.

The Pierce-Arrow Motor Car Company Buffalo, N.Y.

Interesting FREE booklet — "The Story of the Inter-leaf Shock Absorber" — sent on request.

DANN Oil Cushion Springs—with DANN Insert ready installed—can be supplied for any car.



Have DANN Insert—"The Interleaf Shock Absorber"—installed in the springs of your car. The car's riding qualities will be tremendously improved.

Remember that DANN Insert absorbs direct shock and vibration from the car's ENTIRE spring suspension—not from merely ONE end of the springs, as is the case with auxiliary springs.

DANN INSERT

"The Inter-leaf Shock Absorber"

Consider that DANN Insert is tremendously more efficient than most so-called spring type shock absorbers, and in the long run **REALLY COSTS LESS!**

DANN Insert is **built into**—not attached to—the springs. It is in direct contact with every square inch of the spring's shock and vibration conducting surface.

DANN Insert, in addition to its shock and vibration absorbing qualities, **prevents**

springs from **squeaking, rusting or stiffening**—something accomplished by no other type of shock absorber.

DANN Insert preserves **indefinitely** the elasticity and responsiveness of springs upon which easy riding so much depends. Before you purchase **any** shock absorber investigate DANN Insert. DANN Insert is furnished boxed in sets for any make or model of car.

Dann Spring Insert Co.

2265 Indiana Avenue

Chicago, Illinois

**PLACES A REAL
SHOCK ABSORBER BETWEEN
EVERY LEAF OF EVERY SPRING**

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Consigned parts are not an asset of the bankrupt assignee. No. 2 in the Stutz family.



A Big Roomy Six— A Very Moderate Price

When you think of a "Six" at \$1145 you naturally think of a much smaller car.

So, to fully appreciate the remarkable value you get in this car, you must grasp the full significance of its *size*.

The wheelbase is longer — 125 inches.

That gives plenty of room to carry its full quota of *seven* passengers *in real comfort*.

The tires are bigger, — 35x4½.

That further emphasizes the generous size of this new Six.

But it is not only a big car at a remarkably low price for its size.

Its 45 horsepower six cylinder motor gives it ample power—it is efficiently lubricated and economical in gasoline consumption.

It has that certainty of ignition provided only by high tension magneto. The starting and lighting system is of the two-unit electric type.

Electric control buttons are located right at your hand on the steering column—a convenience found only in very much higher priced cars.

Its specifications throughout are those of a thoroughly high-grade car.



Catalog on request. Please address Dept. 425

"Made in U. S. A."

The Willys-Overland Company, Toledo, Ohio
Also Manufacturers of Willys-Knight Automobiles

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, September 8, 1915

No. 10

His Name Is a Catchword; His Business Is Every One's

The Radical Advertising That Has
Made Weed of Poughkeepsie
a County Character



LOOK, Listen, Stop, Drive In, Irving K. Weed, Used Cars." This is the way Irving K. Weed literally commands you enter his establishment. You drive in as a matter of course. The sign is irresistible. You drive right into his salesroom, if such it may be termed, though it might more

properly be styled a sales place. It has neither roof nor sides nor a floor.

Weed sells used cars in Poughkeepsie, N. Y., and he is successful, notably so, because he is original. His ideas are radical to a degree, but they get the business. Take the sign as an example in point.

There is only one railroad sign within the city limits. This is Weed's sign. It is on Main street, about half a mile from the center of the city, and it sticks up like a sore thumb but is a great deal more useful. It is painted bright yellow with black lettering; the clash of the colors is sufficient to rivet attention. The bright-colored "railroad" sign is manifestly so out of place on dignified Main street that it has touched more than one sense of humor, has stimulated more than one person's curiosity. So they drive in and in this way Irving K. Weed, used car dealer, master advertiser, philosopher and student of human nature, gets his prospects—or most of them.

Everything Out of the Ordinary

This sign is curiously characteristic of the man; everything he does he tries to accomplish in a way a little out of the ordinary and at every move he gains publicity. He is well known all through the surrounding country and mainly because of his originality.

One of his best pieces of advertising was a sort of automobile he built—the 1916 Complex, he called it—and it won



A bright "railroad" sign advertises Weed's open air show place; it is the only sign of its kind on Main street; it literally compels attention. INSERT—Irving K. Weed, Used Car Dealer, and the dog he has trained to ride with him and also to drive the car



Weed does business in the open air; nothing obstructs the prospect's view of the cars for sale. The arrangement of the cars is changed frequently and sometimes Weed arranges them to spell his own name

first prize last fall at the Poughkeepsie fair. It was a cart-before-the-horse arrangement consisting of a light road wagon and an old, bony horse—but the

illustration herewith tells more than any description possibly could. One look at it and it is easy to see why it set the whole countryside roaring and advertised

Irving K. Weed for miles around. The old nag is rated at one-half horsepower, which is about correct. On each side there was a large placard giving the specifications, which were as follows:

Garage **GRAND OPENING** Garage

New Used Car Garage

Week of March 22, 1915

We have pushed out the south end of the building; place thoroughly remodeled, and we are now ready to have a show all our own. Cars of all kinds have been put in condition for the last three months. Little early to "start in" but some of the choice machines have gone so readily with the nice days recently, and prices seemingly soaring upward with advance of spring trade make us a little premature in opening.

Irving K. Weed and Used Cars need no introduction—this year to the public. We successfully sold last season 175 cars which we consider our best advertisement—satisfied customers. While we make a specialty of "FORDS" we have others of all makes on hand. Overlands (tourings) this week are 1912, 1913, 1914, 1915 (This 1915 practically is new). Fords all years in tourings. Taxi. Runabouts. Box on back and panel and open deliveries. These are new bodies made especially for me, of light construction, yet of the most durable material. Other cars comprise Mitchells, Jackson, Paige, Chalmers, Oakland, Flanders, Hupmobile, Studebaker, etc.

Ladies in particular we extend to you a cordial invitation, to get acquainted.

We also rent, repair, and store cars. In addition we have space for storing furniture, etc., lowest reasonable rates.

Can we say more in this limited space?

Irving K. WEED

USED CAR GARAGE,

538 to 540 Main Street.

Phone Day or Night 564-J.

Weed figured the spring had come to stay long before anyone else, which accounts for this advertisement that appeared in a local paper. The ad. is characteristic of everything Weed does

1916 COMPLEX

Lew Brication, salesman
T. Punchurch D. A. M., agent
Salesroom, 540 Main Street

Motor	.....	1/2 horsepower
Cylinders	.....	Cast aside
Valves	.....	In head
Cooling	.....	Ozone
Control	.....	Self
Top	.....	Nohair
Curtains	.....	Jiffy blinkers
Body	.....	Slats
Steering	.....	Worm and gear
Universal	.....	Ringbone spavin
Gas tank	.....	John D.
Starter	.....	Oatso

*The horse was the thinnest obtainable and reputed to be 37 years old.

Equipment More Than Complete

The tail lamp was attached to his tail and so was the license number. Punctures were provided against by carrying a "demountable rim" consisting of the spokes and hub of an old wagon wheel, placed at one side of the seat in approved position. Steering was done by the passenger's feet acting directly on the front axle, but for appearance a broom handle and toy wagon wheel were part of the equipment. To add to the effect the driver turned this wheel rapidly whenever the vehicle was moving. "Noise" was considerably reduced by means of a muffler, placed at the right side, made of a piece of stove pipe. In place of a radiator there was a sign with 1916 Complex on it and another sign beneath showed that the vehicle had been sold.

The starter used was an Oatso, and it worked to perfection—never failing once. It consisted of a pan of oats which

was placed just out of reach of the horse's muzzle whenever the vehicle was to be started. The horse in reaching for the oats started the "car" automatically.

Weed's newspaper advertising also reflects his originality. Towards the end of last March he decided that spring had come to stay, and thought he could best arouse the public by holding an automobile show, the Weed motor show, beginning Monday, March 22. This was announced in an advertisement in a newspaper the preceding Saturday. The following day he published the results in an ad 7 inches square, the largest automobile ad in the paper that day.

Four cars had been sold, and he told it in big, black letters, and there had been 85 prospective buyers. Then he went on to tell about the bargain one man got, a grocer who bought a delivery car, and the best of this ad is that every time a person sees this delivery car they will think of Weed.

Capitalized Jitney Fever

A smaller advertisement which called attention to the cars for sale was just unconventional enough to hold attention. It started off, "Seventeen cars in nine days; three of them to last year's customers. Not bad, eh?" Then he cleverly suggested that you look at the list of cars he had for sale by asking you "To look at the top liners for next week, as they say in vaudeville." He closes the ad by mentioning the railroad sign, and this instantly fixes the location in your mind.

Recently, when the jitney bus fever struck Poughkeepsie, Weed was there with a timely ad, which has a sketch of the railroad sign to attract one's attention and a catchy verse telling about "a young man with an old Ford." This verse made a big hit, because everyone was interested in the jitbus, and whether they were thinking of starting in the

business or not it served to keep the fact before them that Irving K. Weed was in the used car business.

His showroom is out in the open air, where there is always sufficient light and room and where everyone passing can see the cars he has for sale. His overhead is a minimum, for his garage

is merely a barn, about 40 x 60 feet, at the rear of the lot, which is 50 x 150 feet.

Weed takes full advantage of the open air showroom. People show less hesitancy in coming in than they would to an indoor one. There is nothing but an invisible line separating the show-

All Kinds of Automobiles! Four Sold Yesterday

Eighty-five prospective auto buyers visited the new WEED USED CAR GARAGE yesterday, the first day of the Weed Auto Show.

Cars are plentiful--and good cars, too--bargains were never greater and the time to make a selection could not be more opportune.

Among the visitors yesterday were many local dealers, showing the interest and co-operation of the different agencies in the WEED GARAGE, which handles all makes of automobiles.

Mr. Castonguay, the cash grocer, bought a splendid delivery auto, and he is certainly proud of it--so are we, because it is a good car at a good price. There are more of these delivery autos here, and your inspection every day this week is invited.

If you are in the market for any kind of an automobile you cannot afford to miss the Weed Auto Show--every day this week. Between Cherry and White streets.

IRVING K. WEED.
SAYS

There was a young man who had an "old Ford."
Didn't have a job.
Couldn't pay his board.
He fixed up the motor and brushed off the dust.
And now he's getting nickels with his "Jitney Bus."
Buy a Jitney--pleasure car or truck. We have them. Our open-air salesroom is full of them. Fords change ownership daily here--1914-1913-1912 -- Today Touring and Roadsters.

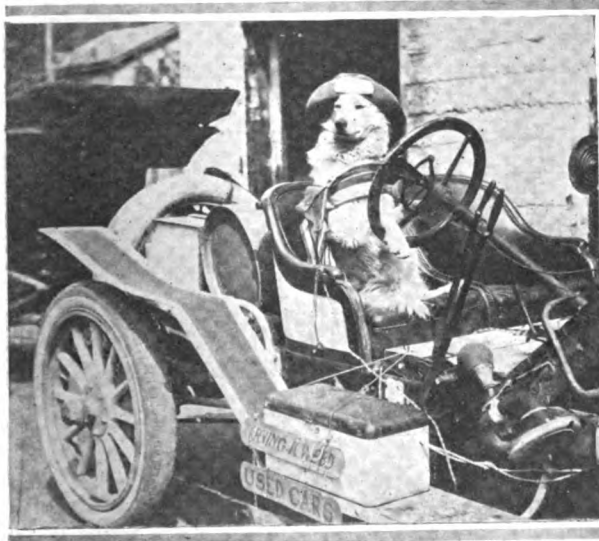
Other Tourings--Warren, Overland 14-15, Paige 14, Cadillac, 14, Chalmers, 11, Buick, Chase and Pope-Hartford trucks.

SEE THEM!!
SEE US
SEE THEM!!!

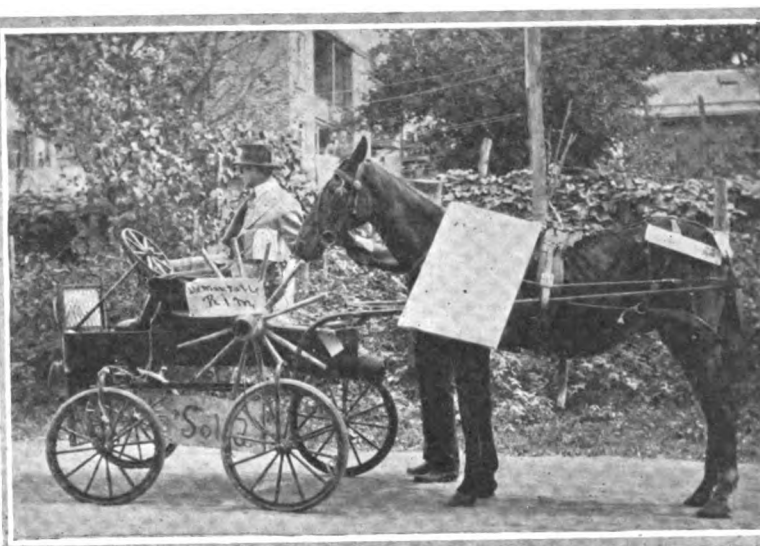
Used Car Garage 538 TO 540 MAIN STREET.
PHONE CALL 544-J

WEED
540 MAIN STREET.

Here are two more of Weed's advertisements. The larger one was used following the opening of the open air sales place



Weed has trained this dog to drive a car; originally he drove a Ford but now he has graduated to an Overland



The 1916 Complex with which Weed advertised his business; the "car" attracted much attention and created a lot of talk

room from street. Passing motorists attracted by some part of the exhibit can drive in and look at the cars without climbing out of their cars. The entrance of the prospect is made as easy as possible.

Every day the arrangement of the cars is changed, and generally they are placed in such a way that they will not fail to attract attention. For example, Weed often places the cars so as to spell his name and thus makes that name more prominent.

Visible Business Barometer

To those who are continually passing and repassing, the appearance of the open air showroom is a barometer of the amount of business done. It is easy to note the cars that were there in the morning, that are missing in the afternoon. Weed is proud of the speed with which he disposes of his cars, and this is a most effective way of letting the public know of the amount of business that is being done, and the proof is there—

there is no disputing what a man sees with his own eyes.

The Dog That Drives a Car

His latest advertising stunt is to teach a dog to sit behind the wheel of a car and guide it. This feat has given him wide publicity—even tourists come out of their way to see this wonderful dog. He is known all over town as the man with the dog.

The dog drives any make of car, and has a varied wardrobe so that his costume may be changed from day to day. One day he is dressed as a man and the next as a woman. On dusty days he wears goggles, and seems as much at home with them as a seasoned motorist.

He has trained the dog to bark at crossings, and when commanded the dog will sing (yelp) until told to stop. The dog seems to enjoy his work for he never looks so happy as when he is behind the wheel.

Weed believes in being friends with everybody, and he ascribes a large part

of his success to the fact that one purchaser recommends him to others, or buys more cars himself; and to the co-operation of the dealers in the city. When a dealer has a prospect to whom he cannot sell a new or used car he turns him over to Weed and, reciprocally, when Weed sees that a prospect is not suited with anything he has and has about made up his mind to buy a new car, he gives some dealer the tip.

Successful Radical Methods

His methods of doing business are radical, but they have been successful, and demonstrate that it is possible to do a profitable used car business in a city of only 30,000 population. Weed sold 175 used cars last year and expects to sell 300 this year. These methods are applicable anywhere; anyone should be able to use them; the outlay of capital is not very large and the profit, of course, depends on how shrewdly the buying and selling is done and how quickly the stock is turned over.

Putting the Climb-the-hill-on-high Germ in Display Window

Devices That Increase Power and Level the Hills Always Appeal—Halt the Passing Motorist

The fact that certain carbureters, ignition devices, spark plugs, oils, greases, tires, etc., give a net power increase may be advantageously used to form a window display. First put down two boards, as shown, to indicate a steep and a gradual hill. Group the accessories which will increase the car's hill-climbing ability on the steep incline, with the tire, assuming that one is used, behind. On the other hill, similar devices, but of nondescript make, should be placed. The success of the window depends on the neatness and care with which the various devices are arranged; yet it should not take very much time.

This window should make a particular appeal to two classes of owners: those who have poor or defective equipment; and those whose equipment is out of date or worn out. In either case, reduced hill-climbing ability is the result, and any man possessing a car defective in these particulars should be impressed by such a display. Suppose, for example, he has an old carbureter, defective in design, and badly worn. The window showing the good carbureter in contrast with the poor one cannot fail to make a strong appeal; the difference in hill-climbing ability is so apparent that he is forced to buy.

The background should be perfectly plain, and may be cheaply constructed

from burlap or crepe paper; even cheese-cloth, tightly stretched, will do.

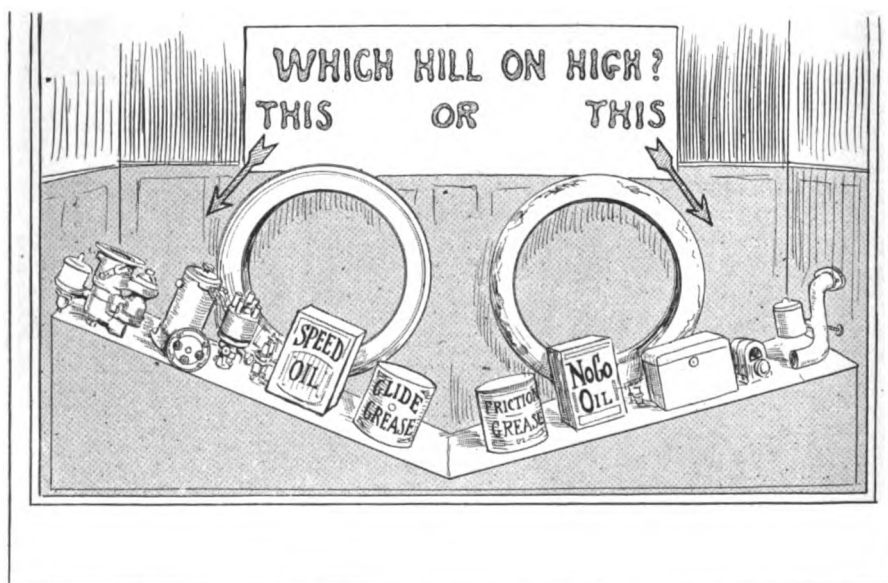
Overselling May Be Bad

The feeling comes with the knowledge that every car in sight has been sold and there is a waiting list may be a good one, but the condition has a serious disadvantage, according to Manager Newton of the New York Buick branch. The branch has not had any cars for immediate delivery for some time, and in consequence the salesmen are merely waiting around the salesroom for chance prospects. This is bad, says Newton, for the reason that when cars are received in quantity, and some are expected any day, it then becomes necessary to reorganize the sales department. It has become such a habit for the

salesmen to hang around and wait that the good habit of going out after business, and some of the methods and arguments that have brought business, have been forgotten.

Sold Papers, Found System Needed

The necessity of system in conducting a garage was taught one man while selling newspapers. Frederick Koenig, proprietor of the Old Post Road Garage, Tarrytown, N. Y., had a newspaper stand long before the advent of the automobile and he learned that only by keeping very careful track of the newspapers sold was he able to make money on his credit business. The result was that when he launched into the garage business he devised a system to protect himself and customers also.



Stutz Team Again Sweeps The Boards Clean

Cooper First in Twin Cities 500-mile Race at 86 m. p. h. and Anderson Second—O'Donnell, Duesenberg, Third—Cement Track Rough and a Severe Test of Both Cars and Drivers.

FORT SNELLING, Minn., Sept. 4—The great northwest, that territory served by the twin cities, Minneapolis and St. Paul, had its first taste of a home speedway today when the new 2-mile cement speedway, located nearly midway between the two cities, was opened here this afternoon, the christening performance being a 500-mile race for a purse of \$50,000, measuring up with the classical Indianapolis event in both distance and prize money.

Under a cloudless sky and with all that the weather-man could provide, 40,000 spectators watched the Stutz team made up of Earle Cooper and Gilbert Anderson win the most signal honors that it has been the lot of any entrant to carry off in a speedway event. Not content with taking first place the Stutz team today won positions one and two, thereby carrying off \$30,000 of the total prize money.

Stutz Stamina Does It

From the drop of the flag in the flying start the two Stutz drivers began a relentless warfare against old victors, De Palma and Resta, that had vanquished them at two other 500-mile events in Indianapolis and Chicago. But Peugeot steel and Mercedes design were not equal to Stutz stamina today, and the veterans Cooper and Anderson wore down every rival in the first hundred miles and then made a most interesting team race for the remaining 400 miles and finished in one of the closest finishes ever seen on a speedway, Cooper leading by less than one-quarter second and little more than half the length of the car.

The pace was 86.35 miles per hour—slower than the pace of 89.84 which De Palma set at Indianapolis last May and considerably under the pace of 97.58 set by Resta when he carried off first honors at the Chicago 500-mile event on the new board track in June. During the first 100 miles the pace was over 90 M. P. H., but that immediately wore out Resta's Peugeot and the Stutz team dropped nearly 3 miles per hour in the average from that point.

The new cement track was rough. It had been built too hurriedly. The pouring of cement was started July 9. Constant rains had held the work back and other rains delayed it. The fillings had

not time enough to settle before the cement surface was laid.

There could be only one result, undulations in the surface and high spots where the expansion strips are placed between the blocks of cement. For days before the start of the race stone chippers with chisels in hand were squatted around the track busily engaged in chipping off the high spots that threw all four wheels of the cars into the air. Time was lacking and when the race was staged many high spots remained and the cars suffered severely.

The Stutz cars alone seemed to be able to withstand the vibration of the track

ORDER OF FINISHING AND RATES OF SPEED

Driver and Car.	M.P.H.
Cooper, Stutz	86.35
Anderson, Stutz	86.35
O'Donnell, Duesenberg	78.86
Alley, Ogren	77.94
Haibe, Sebring	75.33
Haupt, Duesenberg	74.02
Chandler, Duesenberg,	
Flagged at sunset	
Oldfield, Delage	Flagged

and yet maintain high speeds. Today's race was in reality only a 100-mile event so far as any real contest was concerned. Up to that point when Resta was out it was one of the grandest speedway fights seen, the three or four leading cars being grouped most of the time not three lengths apart and traveling at over 90 m. p. h.

Resta's Hot Start

Resta had the inside position in the first row at the start and he set out to get the lead and hold it. He took it in the first lap and held it in the second and third, when Burman in another Peugeot headed him out, with the Stutz team trailing a few lengths back and De Palma's Mercedes in the group. Burman took the lead in the fourth lap and led for 30 miles until he went out with a broken connecting rod. He was setting a metal-breaking pace, hotly pursued by Resta, De Palma and the two white Stutz machines lying back 100 to 200 yards. These four were half a mile

ahead of the others in a couple of laps. At 10 miles Burman started drawing away from the field; at 15 miles he was the length of the homestretch ahead of Resta and the others; lap by lap he continued to gain and by 20 miles he had a gain of nearly a mile. So it continued to 30 miles, then came the end. On the 32nd mile he limped in, stopped at the pits and withdrew.

At 60 miles Resta crept up and took the lead from Cooper, the two passing the tape side by side. But Resta's honors were short. He held leadership but a lap before Cooper had wrested it from him. A lap later and Resta again led by a length. For four circles of the oval he held the lead, all three so close together that a blanket would almost cover them. It was at 74 miles that Anderson showed in front to the cheers of the grand stands and in a lap he was over 150 yards ahead of Resta with Cooper trailing about 50 yards back of the Peugeot. Two laps more and Resta was again in front. He held it for nearly 10 miles but troubles overtook him, the pace had told on his Peugeot, which could not stand the racking.

De Palma Far in the Rear

Trouble symptoms showed up at 94 miles when he lost premiership to the two Stutz cars. Resta slowed up on the backstretch and stopped at the pits. He continued a lap or so more and was out. Just at this crisis Cooper's pace had told on tires and he pulled in to change a left front leaving Anderson away in the lead when he finished the first century in 67:09, a pace of 90.91 m. p. h.

Thus ended the race that promised to be the grandest duel of the year between Stutz and Peugeot and Stutz and Mercedes. At this point De Palma was nearly three laps or 6 miles back. He had lost 1 minute 45 seconds in changing a plug and was losing in the pace the leaders had set.

From 100 miles the Stutz team gradually drew away from the field. At 140 miles they were 3 minutes up on O'Donnell who was solid in third place; at 200 miles the lead was 4 minutes; at 240 it was 6 minutes; at 300 it was 10 minutes; at 360 it was 11 minutes; at 400 it had jumped to 13; at 440 it was 26 minutes; and at 500 miles it was nearly 33 minutes.

It was a steady gain made possible by speed ability.

Back of Alley there were interesting brushes at times for positions. Haupt's Duesenberg and Oldfield's Delage were rivals at times, but the constant tire troubles of Oldfield made it impossible to maintain a position that would insure his finishing before sundown, the limit set by the referee in which the race had to be finished. Barney had twenty stops chalked up against him, nine alone being for tire repairs, three for changing spark plugs and the others for fuel, water, changing driver or mechanic and sundry other troubles. He broke a steering knuckle coming into the homestretch and borrowed a steering arm from Burman, making the improvised repair and continuing. It was the only case of a broken steering knuckle in speedway racing for some time.

Mulford, who was a strong contender for third honors from the start, was eliminated at 120 miles when in fifth place,

due to a broken side member in the frame. It was impossible to make repairs and he withdrew.

Today's race was the first one ever run on a cement speedway in this country, although the classical Brooklands in England is a cement speedway that has been in existence for many years. The speedway here is scarcely banked enough for the highest speeds, and within a year the track will unquestionably be greatly improved. The banking is not straight, as in the Chicago board speedway, but a cross section is a parabola, the same as used on the new board speedway being built in New York. Yesterday and during practice it looked as if the new cement course would be too dusty for safety. Sweeping it off each day and washing it, as the management did, failed to lay the dust. The final solution was a coating of light oil, 39 gravity, which was readily absorbed into the cement and dried in less than an hour. It effectively laid the dust.

trouble of the other. Little differences in car balance, in driving and in many other matters could easily make such a difference.

Mechanical troubles were more or less unusual, demonstrating that rough tracks are still able to do very material damage to cars when traveling at high speeds, and in this respect the percentage of mechanical troubles was greater than at Indianapolis or Chicago 500-mile races. Several of these troubles were due primarily to the track, whereas others were not. Mulford's Duesenberg broke a side member of a frame at 120 miles, the channel section breaking nearly in two. More serious was the breaking of a steering knuckle on Barney Oldfield's Delage when coming down the home stretch. Fortunately the car was controlled, a new steering part was borrowed from Burman's Peugeot and the race completed. Still another break apparently due to the track was O'Donnell's Duesenberg, which broke one of its diagonal radius rods when the race was three-quarters over. The mechanic held the rod from trailing on the ground for the last 100 miles. All of these eliminations were more or less directly due to vibration.

Several other cars had mechanical troubles that were perhaps due to parts crystalizing or other causes. Burman's Peugeot was the first out at 32 miles, a connecting rod breaking. The case was perhaps similar to the part of De Palma's Mercedes that gave way in the last lap of the Indianapolis race this year. Reciprocating parts are being designed with the minimum weight for high speed work and the breaks indicate that renewals are needed at reasonably frequent intervals.

Resta had a simple trouble, a screw cap coming off the base of the pump case of the Peugeot, making it impossible for him to pump oil. It may or may not have been due to the excessive vibration.

De Palma's troubles began 10 minutes

Despite Heat and Roughness Tire Troubles are Few

But Continual Bouncing Develops Mechanical Weaknesses That Cause Cars to Be Withdrawn—Failures That Put the Drivers Out

THERE was not so much tire wear as was anticipated, a fact largely explained by the relatively slow speed of 86.35 miles per hour. The day was hot and more tire troubles were expected. As at other speedways it was the outside right rear tire that suffered most, due in this case to the outer part of the track being rougher than the center on which most of the cars drove and also due to the fact that much of the car weight is thrown on this wheel.

Of the fourteen cars to start six finished the 500 miles; two were running but flagged off at sunset; and six had dropped out due to mechanical troubles. Of the six cars that finished the race

eighteen tires were changed, an average of three per car, or an average tire life of over 170 miles. Silvertown cords were used on the winning Stutzes.

Tire destruction wore out seven on the right rear; five on the left rear; five on the right front; and only one on the left front. A few treads were thrown but the cases were few.

Cooper changed six tires on his Stutz, two right rears, a left rear, two right fronts and a left front; whereas Anderson, his running mate, changed but three, two right rears and a right front. As these two cars ran practically neck and neck for 500 miles it is difficult to explain just why one should have double the tire

Speed Tabulation Twin-City 2-Mile Cement Speedway, 500-Mile World's Derby, Sept. 4th, 1915

CAR	DRIVER	Miles 20	40	80	100	140	160	200	240	280	300	340	380	400	440	460	500	M.p.h.
Stutz	Cooper	13:09	26:20	53:10	1:07:49	1:34:27	1:47:23	2:17:09	2:43:32	3:10:31	3:25:00	3:53:28	4:22:43	4:37:02	5:05:54	5:19:59	5:47:29.30	86.35
Stutz	Anderson	13:12	26:23	53:06	1:06:18	1:34:52	1:48:04	2:16:39	2:43:12	3:10:07	3:23:56	3:53:18	4:23:51	4:37:36	5:05:34	5:19:47	5:47:29.55	86.35
Duesenberg	O'Donnell	14:44	28:45	56:23	1:09:57	1:36:39	1:50:16	2:20:24	2:49:09	3:18:39	3:33:42	4:03:23	4:35:29	4:50:39	5:31:35	5:47:36	6:20:25.35	78.86
Ogren	Alley	13:56	27:45	56:10	1:10:33	1:43:50	1:58:42	2:33:05	3:02:03	3:36:29	3:51:17	4:22:40	4:54:22	5:09:18	5:40:06	5:54:57	6:24:44.55	77.94
Sebring	Haibe	15:23	30:40	1:07:59	1:23:38	1:54:56	2:10:28	2:42:19	3:15:24	3:47:08	4:02:19	4:32:47	5:06:59	5:21:33	5:51:20	6:06:20	6:38:47	75.33
Duesenberg	Haupt	16:06	34:29	1:05:12	1:25:32	1:56:00	2:11:03	2:41:04	3:13:59	3:43:51	4:01:28	4:32:36	5:03:34	5:25:33	5:55:28	6:10:34	6:45:18.55	74.02
Duesenberg	Chandler	15:23	30:42	1:10:21	1:29:06	2:02:11	2:22:13	2:54:06	3:36:17	4:11:53	4:26:47	5:00:34	5:38:32	5:53:53	6:27:56	6:43:06	Running	
Delage	Oldfield	18:18	33:17	1:02:37	1:20:20	1:52:14	2:05:24	2:42:36	3:17:18	3:52:34	4:36:55	5:05:50	6:17:19	6:36:56	Running			
Mercedes	De Palma	16:38	31:09	57:12	1:09:59	1:37:02	1:53:10	Out at	190 miles with oil-flooded magneto									
DuChesneau	Brown	23:43	42:37	1:21:10	1:59:08	3:10:44	3:37:32	Out at	186 miles with engine trouble									
Duesenberg	Mulford	13:51	27:24	53:27	1:07:51	1:41:20	1:56:10	Out at	120 miles because of cracked frame									
Peugeot	Resta	13:10	26:21	53:07	1:16:10	Out at	102 miles with broken oil pump											
Mercer	Henning	15:22	31:42	Out at	66 miles													
Peugeot	Burman	12:52	Out at	32 miles with broken connecting rod														

after the start, when he changed a spark plug; later he made some carbureter adjustments, changed another plug and finally withdrew due to oil getting into the magneto through the shaft coupling. The oil reached the distributor box and at high speeds missing occurred, but at low speeds the mechanism worked satisfactorily. He withdrew at 190 miles.

In addition to breaking a steering knuckle, Oldfield stopped three times to change spark plugs, and finished the race with all of the shock absorbers out of commission.

What was true of tire wear with Cooper was also true of Anderson on the right rear, where he changed one after 70 minutes' running, another on the

same wheel after 65 minutes more of speed, but no more to the finish.

O'Donnell made but two tire changes, both after the race had been on for 2 hours, changing both rears as a precaution. From that until the finish he had no more changes.

De Palma changed both rears after 1½ hour's of racing. Comparing the tire changes of all leading speed cars it is seen that about 2 hours of fast driving was the life of the right rear tires at the middle of the day when the track was hottest and the pace fastest. After this time the pace dropped, the track cooled slightly and the drivers had fewer cars on the oval to overtake. Cooper, Anderson and O'Donnell all used Oilzum for lubrication.

ance. The Grant is a bigger car than the 1915 model, having a wheelbase of 112 inches instead of 106 inches. The body design is much improved and is of the improved boat line design. It is much roomier, the front seats being 40 inches wide and the rear seats 47 inches wide. The radiator is of the shell type and similar to the one on the four-cylinder Grant. The motor's bore is now 3 inches instead of 2⅞ inches, but the stroke is the same, or 4¼ inches. The price of the car is \$795.

A 1,500-lb. truck on display is made by the Independent Motors Co., Port Huron. With either 112 or 128 inch wheelbase the chassis sells at \$1,285. The motor is a four-cylinder Continental block, 3½ x 5. Other features are a Marvel carbureter, Eisemann ignition, Brown-Lipe sliding gear transmission, solid tires, 36 by 3 front and 36 by 3½ rear.

A BOY WHOSE SERVICES BRING A BIG RETURN

Every customer, as he leaves Bryan's Garage, Lima, O., is asked if he has enough gasoline for the day's run. Also inquiry is made as to whether he has oil enough and whether there is sufficient water in his radiator. His tires are inspected at the same time to see if they are properly inflated. All this is done by a boy whose sole duty is to look after these details, and no charge is made for the work.

This little show of thoughtfulness is highly appreciated by the customer, but it also directly benefits the garage in two ways. In the first place, it is very seldom that a car is stalled on the road and the garage is put to the trouble of sending gasoline to him, and secondly, increased sales in gasoline and oil result because it is very seldom that it is necessary to replenish the car while on the road; usually the supplies taken on at the garage are sufficient for the tourist to reach his destination.

The same treatment is afforded transient customers. If a man stops for gasoline, he is asked if he has enough oil, and often it will be found that he has not. His radiator is inspected and filled, if necessary, and his tires are also looked after. The motorist is always greatly pleased by this interest in his welfare, and often he becomes a regular customer as a result. All this work is done cheerfully and it follows that the motorist's good-will is gained.

Few Are Mechanically Inclined

"Want to look at the motor?"

"No, the — company knows more about that than I do," said the prospect, and the car was sold without raising the hood.

The moral is that there are many prospects that are not interested in the mechanical side of the motor car.

Chalmers Dealers "Drive Away" from New York City

One Hundred of Them Parade Through the Metropolis, Eat Clams and Learn of New Service Coupon Policy

NEW YORK, Sept. 2—Today was drive-away day for the Chalmers dealers in the metropolitan district and over 100 dealers participated in the event which began with a parade through the principal streets and ended with a clambake at Whitestone, L. I. The celebration was to signalize the arrival of 226 Chalmers six-40 cars which had just been received.

After the clambake the party was addressed by several company officials. Sales Manager Paul Smith, W. J. Drumplemann and F. N. Lewis, all from the factory, made speeches.

A new service policy for Chalmers dealers was announced and the details of it were explained. A coupon book is to be given to each purchaser of a car, entitling him to 10 hours' service each month for 5 months. Adjusting, repair where defective parts are found, greasing, and inspection are the classes of work specified in the book. The coupon tickets are divided into half-hour units, and each month's coupons are printed on a different colored paper, so as to make the different months readily distinguishable. The object of this is to prevent an owner using the wrong coupons.

A technical talk on the six-40 motor was given by F. N. Lewis, who used a motor and parts which he had brought from the factory for the purpose.

Among those present were: Roy Camp, sales manager; A. L. Bennet, superintendent of agencies; Edw. Mauder, Dudley Seguer, Phil. Nussbaum, all of the New York branch, and also the following:

Agents Under Contract

Bergen Auto Co., Rutherford, N. J.; C. S. Edwards, East Hampton, L. I.; The Foster Co., Inc., Pleasantville, N. Y.; Center Moriches Garage, Center Moriches, N. Y.; Standard Auto Co., Paterson, N. J.; Whiffall's Garage, Nyack, N. Y.; Rose & Hibbard, Yonkers, N. Y.; Howatt's Central Garage, Portchester, N. Y.; Vaast Bros. Garage, South Norwalk, Conn.; Mexameter Motor

Co., Stamford, Conn.; Sammis & Downer Co., Huntington, L. I.; Jakes Garage, Lynbrook, L. I.; Landers Motor & Supply Co., Mineola, L. I.; Thompsons Auto Garage, Asbury Park, N. J.; Stryker Motor Car Co., Plainfield, N. J.; John Weigel, New Brunswick Garage, New Brunswick, N. J.; Jersey City Branch, Hudson Boulevard, Jersey City, N. J.; Bridgeport Branch, Fairfield avenue, Bridgeport, Conn.

Sales Representatives

The Fillow Auto Co., 31 Crosby street, Danbury, Conn.; Blue Ribbon Garage Co., Oyster Bay, L. I.; White Bros., 488 Tremont avenue, Bronx, N. Y.; Hohokus Garage (Washer Bros.), Hohokus, N. J.; Perth Amboy Hardware Co., Perth Amboy, N. J.; Haynes Garage, Babylon, L. I.; E. E. Waller, Dunellen, N. J.; Paul Motor Car Co., White Plains, N. J.; C. W. Smith, Great Neck Station, L. I.; Stannard's Garage, Port Washington, L. I.; W. C. Grabie, Mattituck, L. I.

Varley's Garage, Englewood, N. J.; F. H. Mason's Garage, W. 50th street, City; W. M. Weygant, Tuxedo, N. Y.; Van Orden's Garage, Ridgewood, N. J.; Wm. M. Ower, Englewood, N. J.; John L. Deitche, Metuchen, N. J.; The Croton Garage, Croton-on-Hudson, N. Y.; Eagle Garage, Peekskill, N. Y.; Richmond Hill Garage & Machine Co., Richmond Hill, L. I.; Farmingdale Auto Garage Co., Farmingdale, L. I. (Snb. under Huntington).

The Eggers-Knight-Auto Co., Inc., Jamaica, L. I.; Roeben's Scarsdale Garage, Scarsdale, N. Y.; Applegate Garage, Bay Head, N. J.; E. W. Clark, Glenbrook, Conn.; Reilly Engineering Co., 519 9th street, College Point, L. I.; The Webster Garage, 3134 Webster avenue, Williamsburg, N. Y.; Castleton Motor Co., 1020 Castleton avenue, W. New Brighton, S. I.; Washington Garage, New Rochelle, N. Y.; The Hudson Garage, Hoboken, N. J.

The Excelsior Garage, W. Hoboken, N. J.; Benj. Krom, Union Hill, N. J.; Cliffside garage, Cliffside, N. J.; Griffin's Garage, Dobbs Ferry, N. Y.; Mt. Pleasant Garage, No. Tarrytown, N. Y.; The B. & O. Garage, Hastings, N. Y.; Ossining Garage, Ossining, N. Y.; South Hampton Garage (H. G. Squires), Southampton, L. I.; S. P. Hedges, Greenport, L. I.; J. M. Kispough, Newtown, N. J.

A. N. Randall, Port Jefferson, L. I.; W. L. Mantha Co., Bayport, L. I.; Jamesport Garage (Bergen Bros.), Jamesport, L. I.; Michel-Schneider Garage, Inc., Mt. Vernon, N. Y.; Blue Arrow Garage, New Canaan, Conn.; Standard Garage (Shelbourne & Tuthill), Patchogue, L. I.; Tottenville Garage (Geo. Garfott), Tottenville, S. I., N. Y.; Garden City Garage, Garden City, L. I.; Oceanside Garage (Long Beach Road), Rockville Centre, L. I.; P. A. Stubblebine, 8 North avenue, New Rochelle, N. Y.

FORD TRACTOR MAKES DEBUT AT MICHIGAN FAIR

DETROIT, Sept. 6—At the Michigan State Fair, which started this morning, the Grant six is the only 1916 model shown for the first time this year, though the Ford tractor makes its initial appear-

Columbus Favors Fair Shows

Crops in Ohio Excellent and Farmers Flock to Fair Grounds Exhibit—Growing Demand for Closed Cars

COLUMBUS, O., September 4—By far the best show ever held in Columbus as far as direct results are concerned was the show held at the Ohio State Fair under the auspices of the Columbus Auto Show Co. for the week starting August 30. Sales were numerous and many subagents were signed up, and in fact all of the dealers who exhibited were enthusiastic over the results.

The show was held under the auspices of the Columbus Auto Show Co., a corporation with a nominal capital of \$1,200, organized to give automobile shows and carnivals. It is composed of the leading dealers of the Buckeye Capital who desired a vehicle to give shows smaller and more widely than the Columbus Auto Trades Association, the organization which formerly arranged for automobile shows. The board of directors consists of Thomas E. Curtain, H. D. Brasher, F. E. Avery, Harry Schwartz, J. P. Gordon, Charles Justus, P. F. Minnock, O. G. Roberts, N. N. Madden and W. J. Miller.

Fall Shows Interest Farmers

The cars shown included those which are the best sellers among the farmers as well as those which are placed more generally in the city trade. The great attempt was to interest the farming population, which always attends the fair in large numbers. The attendance at the fair was the best in its history and as a result the automobile show was correspondingly well patronized.

Dealers who showed cars at the show were very enthusiastic of the fall show idea. Some believe that it is the best time of the year to hold shows for both country and city folk, but all were united in the belief that the fall is the best time to interest the farmer. The crops are then mostly harvested and the farmer has time to attend and look over the various cars shown. He has money with which to make the purchase of the car he selects, and taking it all in all the farmer is more easily reached in the fall.

Conditions in the farming sections of the Buckeye State are very good, according to dealers who have penetrated several sections. The wheat crop was unusually large and while some trouble was experienced in saving it, because of the excessive rains, still the farmers are feeling good. Only a small proportion of the grain was lost either through floods or excessive rains, and much of

the wheat crop is marketed at good prices. The oats crop was likewise a good one and most of it has been harvested and threshed. The prospects for the corn crop are excellent, and without any early frosts it will be one of the largest in central Ohio. Good crops last year put the farmers in a good frame of mind and as a result they are probably the best automobile buying prospects of any class of people.

Many City Prospects Booked

Dealers are making a special effort to get business among the farmers. Agents are being signed in many of the smaller towns and even in rural districts, where a live agent can be secured, he is signed up. The show at the Ohio State Fair was a good opportunity for business of this kind.

But the show was not only strictly for the farmer, as the attendance at the fair was not exclusively from the rural population. Many people from Columbus and the cities and towns in Ohio attended the fair and the show was the big attraction. Dealers say that they secure many good prospects of purchasers from city men, those who are engaged in manufacturing or mercantile lines.

Columbus is recognized as one of the leading distributing centers in the Middle West, while Franklin county, in which Columbus is located, owns about 10,000 cars, still many thousands of cars are sold through Columbus jobbers and distributed in outlying territory. The usual territory covered by the Columbus distributor includes from a dozen to 25 counties in the central part of the state. In some instances the territory covers all of central, southern and southeastern Ohio. In a few instances territory in Kentucky, West Virginia and Indiana is included.

Closed Car Field Growing

Columbus is one of the best and most wealthy of the inland cities of the country. Its industries are diversified and no one line is responsible for its wonderful growth. As a consequence, the failure or depression in one line does not affect the entire city to a point where its purchasing power is abnormally reduced. Manufacturing, of course, is the leading line of commerce, but intermingled with it is the coal mining industry of the Hocking Valley and other Ohio districts which is enormous. The coal mining in-

dustry has been depressed during the past year, but just now it is increasing in volume and will probably gain great momentum in the near future.

According to the estimates of W. H. Walker, Ohio registrar of automobiles, Ohio will probably have more than 225,000 cars during 1916, and a large number of those will be new cars and will be sold by dealers on the ground. It is figured that the rural counties will show the largest percentage of increase in registrations, although large increases will be shown from the more populous centers.

Dealers are of the opinion that the field for closed cars is rapidly broadening. The most popular model along that line is the convertible top, which can be opened or closed at will. Quite a few of the closed models were shown at the show with good results. They attracted attention from the buying public and quite a few sales for coupe and sedan bodies were closed.

The electric also attracted considerable attention. Quite a few electrics were shown at the fair and dealers have been receiving many inquiries for electrics. Columbus, being in a level country, is a good market for electric vehicles, and the same is true of many of the cities and towns in the central part of the state.

Use Cars All Year Round

In Ohio the average motor car is used during the entire season and is not laid up for the winter, as was the custom in years gone by. This is becoming more and more the rule and dealers are looking to the sale of cars during the entire season. Garages in Columbus report that comparatively few cars are in dead storage during the winter, but are kept in service and are often used daily by the owners. This is true to a large extent of the rural sections of the state. The roads are generally well improved and that permits the average farmer to use his car during the entire season.

F. E. Avery & Son is central Ohio distributor for the Jeffery and Packard, and while Packard business is restricted to the city and larger towns and necessarily the sales are rather limited, there is a strong outlook for the Jeffery. The concern has 14 counties in central Ohio and proposes to establish quite a number of subagents. Avery is looking for a good demand from farmers.

O. C. Belt, of the Belt-Barr Motor Co., which handles the Franklin in eight counties in central Ohio, is very enthusiastic over the outlook. The company had the Franklin last year and sold more than 30 cars and the year is not up until October 1. Belt believes that the prospects are good for the sale of at least twice that number. Subagents will be established in quite a few of the most important centers in the territory.

H. D. Brasher, of the Brasher Motor Car Co., is another of the Buckeye Capital dealers who is very enthusiastic over the outlook. The company recently took over the central Ohio agency for the Studebaker and in conjunction is agent for the Cole. The territory covered for the Studebaker consists of Franklin and Pickaway counties. Sub-agents will be established in many points on the territory. For the Cole the concern has 12 counties in central Ohio.

Business Good Despite Crops

Brasher believes that the fall show idea is the best for the farmer trade and took advantage of the show to close contracts with many subdealers. He is of the opinion that the closed car outlook is brighter than ever. As the company did not have the agency for the Studebaker last season it is impossible to make a comparison of sales with the prospects.

Harry Schwartz, president of the Standard Motor Car Co., central Ohio agent for the Hudson, is very optimistic of the prospects in the automobile trade. He said, "The fall show is the best thing that we have ever done in this city to boost the automobile industry. We have never had as good a show as is in progress at the Ohio State Fair. It ought to be a cue to the dealers in every city or town where a state fair or large county fair is held to show their latest models. I believe we will get better results at the fall show than at the coming winter show. The farmer trade looks fine to me and business will be very good in the rural sections even in the face of adverse crop conditions in certain sections. There is a growing demand for closed cars, especially the touring sedan and the adjustable tops." The Standard company covers 14 counties in central Ohio for the Hudson and during the past year sold 180 cars. Schwartz expects to sell at least 300 cars in the territory during the season of 1916.

Hope for Much from Farmers

Oscar Lear, of the Lear Motor Car Co., central Ohio distributor for the Buick, is looking forward to an active season, especially among the farmers. During the season of 1915 the company sold 200 cars and estimates for the new season are 300 cars. The company is making an especially strong bid for the farmer trade and has placed subagents in many of the smaller settlements in the territory. He claims that closed cars are asked for a good deal oftener than formerly and believes that sales of that class of pleasure vehicles show large increases.

W. J. Miller, head of the Broad-Oak Automobile Co., Chalmers dealer, is also strong for the farmer business and is making an especial effort to line up prospects in farming communities.

The Curbstone Dealer Decried

What of the Man Who Buys a Car at a Discount Ostensibly to Get the Agency?—A Problem That Needs Solution

Editor Motor World:

We trust that you will pardon us for bringing to your attention a matter of very much business concern to us, as well as other automobile dealers over the country. We feel you could possibly be instrumental in adopting some kind of plan with the manufacturers of automobiles to get them to protect the legitimate automobile dealers in a more satisfactory way than what they are doing at present, and we are approaching you with this matter with the view that you might be in a position to take some kind of steps toward getting these manufacturers to stop selling cars direct to the users, who claim to have the agency, and many of them who possibly get the agency for no other purpose than merely to get the advantage of the legitimate dealers discount on their own private car, or possibly to accommodate some friend by getting them a car at the dealers' price.

We do not believe that there is any other line of merchandise so badly abused as that of automobiles, as you know that in most lines of manufactured goods the consumer or user cannot buy them direct from the factory, but have to make their purchase through the dealer, and it seems to us that there should be some way to get the manufacturer to stop selling, or quoting dealers' prices on automobiles to any one, except those who go into the business in a legitimate way by investing some capital or at least give the biggest portion of their time to this special business.

Of course, this is not quite so bad in the larger cities, but it hurts the legitimate dealer in the small towns. For instance, we know of one firm in this county that bought a carload of automobiles from one of the largest automobile factories in the country, and as this same firm is engaged in another business, to which their full time and investment is given, they merely bought a few cars to get the dealers' discount. We also know of another party, who is a professional man, that bought a car just to get the agency, and we know that he has no intentions of dealing in automobiles outside of some special friend whom he might wish to accommodate by helping him get a car direct from the factory and get the allowance of the legitimate dealers' discount. So we feel that if there could be some way to remedy this practice, many a "would-be customer" would buy their automobiles through the dealer who is in the business in the

right kind of way, and this would give us what we are justly entitled to.

We trust that you may understand our motive in writing this letter to you, and should you be interested in trying to help make these conditions more satisfactory to the dealers in the smaller towns we feel and trust that you may be in a position to adopt some plan that will remedy these existing conditions and bring about a reconciliation between the manufacturer and the legitimate dealer in the near future.

Asking that you accept our apologies for presenting these facts, and trusting that the suggestions may have your hearty endorsement, we beg to remain,

Yours very truly,

Johnson, Berger & Co.,

Morris Berger, Jr., Pres.

Jonesboro, Ark., Aug. 17.

Many Orders But Few Cars

EL PASO, TEX., September 3—Conditions in the motor car market here show that for the most part dealers are short on cars but long on buyers. Few shipments have been received during the past week, and while shipments of Franklins, Studebakers, Nationals, Maxwells, Dodges, Chalmers and Buicks are reported on the way, dealers are wishing for speedier transportation.

According to Frank J. Garrett, of the Elliott-Garrett Co., National and Studebaker distributor, El Paso is essentially a city where the fall business is the big business. Farmers and stockmen appear to have money and to be willing to purchase cars in the fall, though few dealers have been able to make deliveries on time.

Even the used car demand exceeds the supply. In the majority of cases prices of 1916 models have not been reduced enough to induce the owner of a 1915 model to sell his car and get a new one. In consequence, there are plenty of 1912 and 1913 models, but the dealer who can obtain a 1914 or 1915 to be placed on sale is considered fortunate.

Henshaw Gets Worcester for Dodge

BOSTON, August 28—C. S. Henshaw, who has the agency for the Dodge in eastern Massachusetts with headquarters in Boston, has been given the agency for the car at Worcester, so that now he controls about a third of the state. He has placed Simeon E. Baker in charge, at 27 Foster street.

Revised Reo Four \$875, Six Reduced to \$1250

**Maintenance Much Simplified
by Chassis Changes—
Bodies Improved**

**Main Bearings Adjustable from
Outside—Unusual Oil
Pump Adopted**

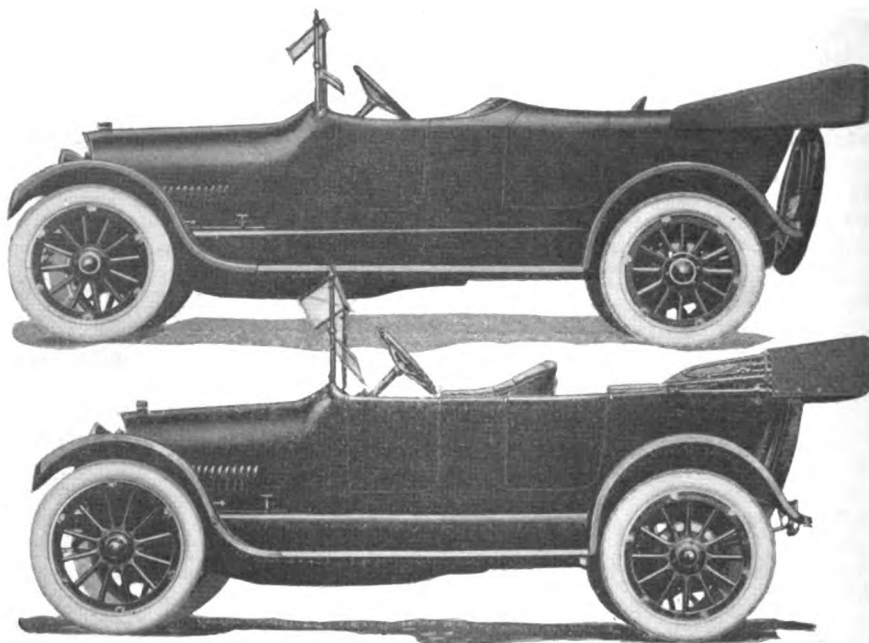
FOR 1916 the Reo Motor Car Co., Lansing, Mich., will produce two models, a four and a six, the general design being much the same for the two chassis. There have been no great changes in the chassis, but the bodies have been improved in line and in comfort, especially that of the six, which now has divided front seats and a handsome outline. Prices have been lowered slightly, the four now costing \$875 and the six \$1,250, with five and seven seated touring bodies, respectively, thus showing reductions of \$175 and \$135.

In mechanical detail the most striking alteration is in the arrangement of the starter drive. The Reo company is an upholder of the separate gearbox with a midship location, and this gives ample room between the engine and the gear. Advantage is taken of the space thus provided to mount the starting motor clear of either engine or gearset, cranking through the clutch shaft instead of by means of the flywheel, and there is a highly ingenious ratchet arrangement whereby every portion of the drive is released as soon as the gasoline motor has commenced to run; there is no free wheel clutch, no part whatever in motion outside of those which would be moving without any starting equipment.

Simplicity in Starting System

In the 1915 design the same location was used for the starting motor, but the clutch shaft carried a worm wheel and the cranking motor had a worm which was in permanent engagement with the worm wheel. This worm wheel was not keyed to the clutch shaft, but could be locked to it by a ratchet pawl operating in the same way as the ratchet used on the 1916 car, but the worm and worm wheel have now been replaced by a roller chain.

Keyed to the clutchshaft is the ratchet gear, but the pawl is normally held by a spring so that it is clear of its wheel. Normally rotating with the sprocket is a sheave carrying a trip pin, and if this sheave is held stationary for an instant while the starting motor is running, it trips the ratchet pawl, which then takes hold of the ratchet wheel and allows the engine to be cranked. To hold the



The Reo four has a standard type of five-passenger body
The body on the Reo six has the modern divided front seats

sheave for the necessary fraction of a second there is a cord hanging loosely around it, and depressing the starting switch tightens the cord just enough to trip the ratchet pawl. Immediately the

to make connection with the water pump a large intermediate pinion is used, the pump speed being the same as that of the crankshaft.

In the four, valve rockers are not incased, but aluminum covers are used on the six. Tappets are light, hollow structures and the top of the adjusting screw contains a pad of soft material bearing against a mushroom foot on the long push rod. The rocker has a large oil cup made integral with it, a felt lining being used to absorb lubricant (preferably soft grease) and to conduct it to both the pin fulcrum of the rocker and the hemispherical head of the push rod, the latter also bearing against a fiber surface. Perhaps the most ingenious idea of all is the use of a fiber roller to join the valve stem and the operating extremity of the rocker.

Plunger Pump Is Adjustable

Lubrication is a combined pressure and splash system, the three main bearings of the crankshaft being supplied directly from the pump, which also feeds the timing gears and dip troughs for the connecting rods. The system is identical for both motors and its feature of peculiarity lies in the oil pump. This is a plunger type driven from the camshaft, but unlike the majority of such pumps it is driven by an eccentric with a full strap connection to the pump plunger and no spring is used for the suction stroke. Reference to the drawing shows that the oil is sucked in at the bottom of the pump cylinder as the plunger rises and is transferred to the interior of the plunger as the latter descends. Thence it passes out through holes at the

REVISED REO FEATURES

Price:	Four	Six
Touring	\$875	\$1,250
Color	Black	Black
Make of motor.....	Reo	Reo
Number of cylinders..	Four	Six
Shape	F	F
How cast.....	Pairs	Threes
Bore	4 1/4	3 9/16
Stroke	4 1/4	5 1/4
S. A. E. rating.....	27.2	30.5
Ignition	Remy	Remy
Carbureter	Johnson	Johnson
Starting-lighting	Remy	Remy
Clutch	Dry disk	Dry disk
Gearset	3-speed	3-speed
Wheelbase	115	126
Tires	34 x 4 1/2	34 x 4 1/2
Wheels	Wood	Wood
Steering	Left	Left
Control	Center	Center
Make of axles.....	Reo	Reo
Type rear axle.....	Semi-floating	Floating

starting pedal is released the pawl comes out of mesh and everything stops.

Generation and ignition are both cared for by a Remy machine, mounted on the right side of the engine, and driven through a simple leather coupling from a special pinion in the timing gear case.

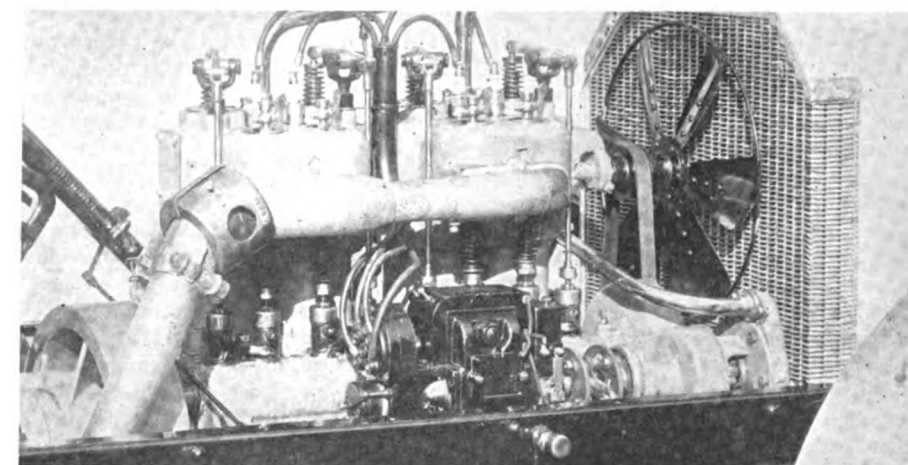
On the opposite side of the motor is the water pump, pairing with the generator as to position, and the distribution gearing is composed of helical tooth spur gears. The generator shaft pinion is driven from the camshaft gear, and

top of the hollow plunger and so goes to the supply pipes. The ball valve at the bottom of the plunger will only open after the intake holes near the bottom of the cylinder are closed by the descending plunger, so the effective stroke is very short.

Adjustment of the amount of the oil supply is rendered possible by this construction, because the plunger can be raised or lowered to vary the clearance between the foot of the plunger when at the bottom of its stroke, and the head of the cylinder. There is a screwed connection between the plunger and the connecting rod which permits the adjustment to be made easily.

Adjustable Crankshaft Bearings

Another engine feature that is unique is the method for adjusting the crankshaft bearings. The cap is not packed apart from the upper half by shims, but the width of the gap between the two is set by means of threaded sleeves through which the actual locking bolts pass. Both sleeve and locking bolt have the same sized head and a special tube spanner is supplied which can turn the bolt alone or both bolt and sleeve together. To adjust the bearing the spanner is first put over the bolt head only and the bolt is slacked. Then the spanner is pushed home and the sleeve unscrewed



The Reo motor has overhead intake valves which are quite accessible. The Remy lighting generator is mounted on this side

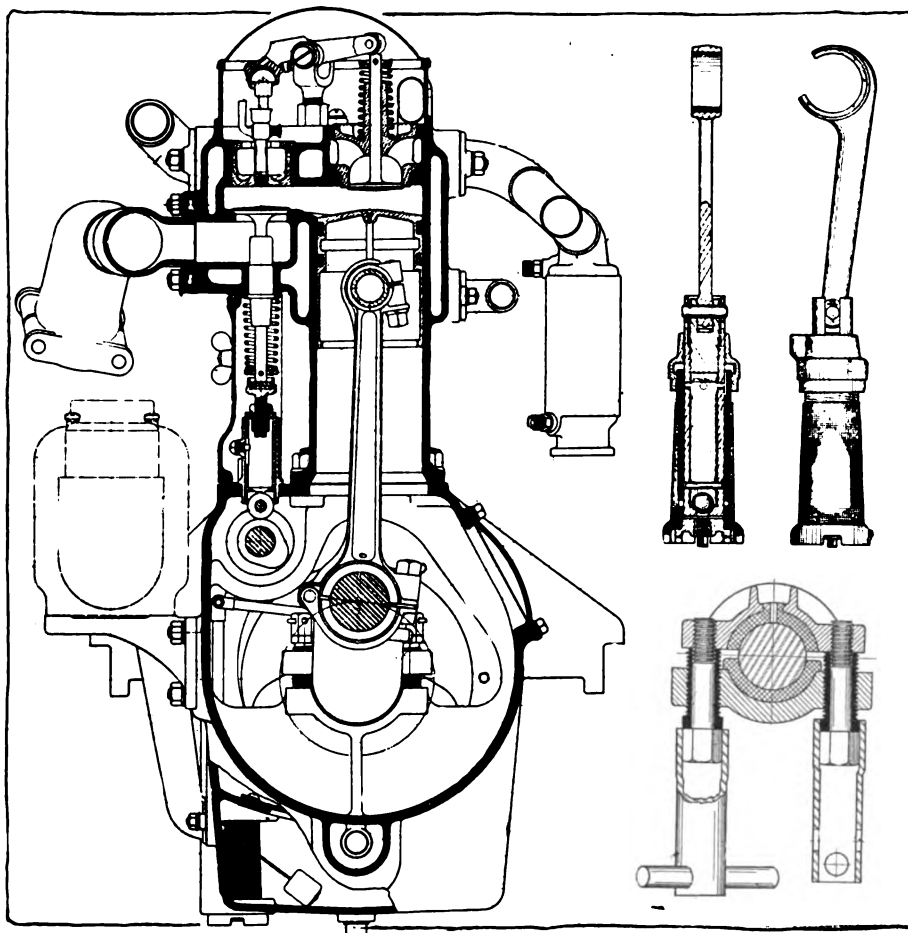
a little so as to decrease the gap, and finally the bolt is tightened again. Locking wires of an easily detachable sort serve to secure the locking bolts against turning. The bearings at the front and rear ends can be adjusted from beneath the car without dropping the oil pan, as the bolt heads are brought through the latter, and the center bearing is inverted so that the middle bearing can be set up through the hand holes in the side of the crankcase.

For the connecting rods a hinged cap is used, and shims or liners for adjustment, but it is possible to take up a connecting rod end through the crankcase hand holes. For the wrist pin the bearing is in the piston and is, of course, non-adjustable.

The clutch used for both six and four is a dry plate, the faced disks being the flywheel members and the plain steel disks the inner ones. There are three springs carried on a spider after the manner that is becoming so popular with cone clutches, but in this case the spider is to the rear and the spring adjusting nuts are in front of the flywheel. The inner member revolves on a spigot which is part of the crankshaft, and it has also a large diameter roller bearing surrounding the flywheel boss, so the inner member is given an exceptionally true support. The effect of this is to cause disengagement with very small pedal movement and the inner part being so light gear shifting is facilitated.

Gears Positively Locked

Between clutch and gearbox is a short shaft with a telescopic universal joint at each end to allow for any slight disalignment and also to facilitate assembly as it allows either the clutch or the gearset to be taken down without disturbing the other. The gearset itself is mainly noteworthy by reason of the positive lock which holds rigidly whichever shifting fork is not in use. The shift lever is ball mounted on the lid of the gearbox and normally rests in the mid position. Located on either side of the gearbox lid are tubular cases containing spring-backed plungers which enter the slots in the shifting rods so that with the gear lever in neutral neither shifting fork can move. Pressing the lever to one side or the other forces one plunger out of the slot in the shift rod and so allows the lever to move it, but meanwhile the other plunger holds the second shift rod against any accidental displace-



End section of Reo motor, showing overhead location of intake valves with exhaust valves at the side

Oil pump in section, showing adjustment
Method of adjusting end main bearings

ment. It is impossible to move both shift forks at once with the gear lever.

The rear axles differ slightly in design, that on the four being semi-floating and that of the six a full-floating construction. Almost the same bevel pinion housing is used for both, and Timken bearings are employed for mounting both pinion and differential. In the larger axle the road wheels run also on Timken bearings and the drive shafts are withdrawable by removing the hub caps, whereupon the whole differential can be removed. Since the wheels are carried on the drive shafts in the axle of the four the last mentioned feature is peculiar to the six. One other difference is that the four has a straight tooth bevel gear and the six a bevel of spiral type, the gear ratios being 4 to 1 high, 7.2 to 1 second and 14.8 to 1 first speed for both the four and the six.

Rear Springs Different

The rear springs are again different, as the four has three-quarter elliptic suspension and the six a cantilever system. The latter is especially interesting be-

cause the two springs are closer together at their front ends than at the rear extremities, and this is said to eliminate much of the roll that is sometimes a trouble with a cantilever system.

Bodies an Advance

The new bodies are thought to be a considerable advance upon anything the Reo company has produced previously and that of the six has a passenger capacity for seven as against a five-passenger capacity on the 1915 car. One small feature of the six body is that the folding seats set into the floor board when closed down, and then, by turning a few latches, the whole board can be removed, giving free access to the universal joints and the brake gear. Also the floor is raised several inches where it passes between the two front seats, this making it easier to step through from front to rear. In keeping with the character of the cars, the tops are really strong and serviceable and the windshield fittings have a rugged character which will prevent rattle or loose joints however roughly the car may be driven.

The result was a most intelligent class of interested visitors. The majority were anxious to invest in a high-grade used car and in several cases a single car could have been sold several times. The newspaper ads brought inquiries even from Virginia and Texas and as the sale closed there came a telegraph order for a demonstrator, but it had been sold when the wire arrived.

Adhered to Prices

In the lamp of each car was a description of the vehicle with its price. There was no deviation from prices. The cars were placed in the main salesroom, no new cars being in sight. Truck, new car and used car salesmen concentrated on the work. Of the 22 cars sold about 75 per cent were Locomobiles; several cars were shipped in from other branches. The stock was practically cleaned out. The sale closed at 11 o'clock this morning.

MAKE IT EASY FOR PROFITS TO COME TO YOU

"You'll have to drive inside," said the proprietor of a Chicago garage to a Motor World representative who drove up in front and asked for gasoline.

Summer Used Car Sale Moves Stock

Metropolitan Locomobile Branch Employs Advanced Merchandising Methods-- Bans "As Is"

NEW YORK, Sept. 4—Eliminating the stigma which goes hand in hand with the words "second hand," and striking at a peculiarly psychological time, the New York Locomobile branch this week staged a Summer Sale of Locomobile Exchange Cars which was very successful.

Sold 22 Cars

During the six days, 22 used cars were disposed of at values ranging from \$450 to \$4,500. The total sales, while not yet officially totaled, were about \$50,000, and following the circularizing and advertising 708 people visited the sale. In addition to actual sales about 150 live prospects were added to the list.

One of the merchandising features of the event was the selection of the time by Manager John F. Plummer. While the summer season ends with Labor Day and while thousands leave New York for that week end and other thousands are on vacations, making the week one of the quietest of the year, the sale was held this week. Theoretically this may then be the end of the summer, but it is also the beginning of a prime touring season when open-body cars are desirable. Therefore, in order to stage the "summer" sale while it was yet summer and in order to anticipate the fall touring season, this week was selected.

A similar sale was held in the spring and both that and the present sale are

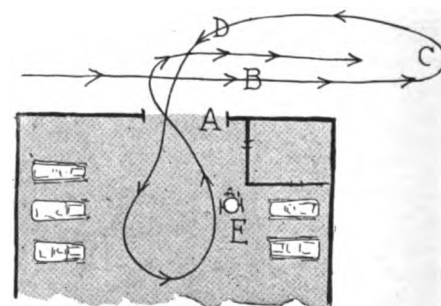
part of a plan to make the word Locomobile spring to mind when used cars are mentioned, the same as certain department store periodical sales are at once suggested when certain goods are mentioned. Manager Plummer believes that a used Locomobile is a high-grade piece of machinery and is not "second-hand." The stigma of that term is, he believes, a liability. For that reason the branch maintains an Exchange Car Department.

Similarly, the words "as is" have been discarded—largely because of a recent story in a popular 5-cent weekly, ridiculing the term. Cars, if not guaranteed, are sold I. P. C., which is, "In present condition."

First Days the Best

The sale was conducted with snap. Newspaper space was used Sunday, Monday and Tuesday—800 lines in each ad, and with characteristic Locomobile copy. The salesroom was open Monday, Tuesday and Wednesday, but the attendance after 7 o'clock was respectively 60, 22 and 10, which indicates the value of the first days of the sale; of the 708 visitors for the week 355 were in Monday; 30 were in before 9 a. m. that day.

The newspaper ad was put up in reprint form and was mailed to the exchange car prospect list and to Locomobile buyers prior to the adoption of left drive—about 1,200 in all.



Since the car had gone by the entrance—A—it was necessary to drive from B to the next corner—C—and turn around, drive back to D and turn in.

The driver naturally expected to find a stationary pumping outfit inside, but after he had untangled himself from several cars on the floor he found the gasoline was in a portable tank at E. This made him disgusted with the garageman.

Instead of wheeling the tank to the street—which is what the tank is for—the garageman had made the driver take a big, heavy car a block down the street and back in order that the driver might help the garageman make some money—which he doesn't deserve.

If this garageman is to be entitled to any gasoline trade he should either wheel the gasoline to the curb at B or install a curb pump there. If the garageman wants to get the motorist's money there is nothing like putting the goods where they are handy to the motorist. Profits that have a hard time getting in will not try very many times.

If the Old Way Is Good Why Change It?

Flippy, Floppy Habits Get No One Anywhere—Mental Instability a Disease That Brings Nothing But Harm

By Ray W. Sherman

WHEN Banks went on a vacation he vacated thoroughly. When he came back it was a waste of breath to ask him if he had been on a vacation. Half a glance showed it plainly. He was the color of the famed nut-brown maiden of collegiate lore, and without the habiliments of a twentieth century civilization he could easily have passed for the last Mohican.

When Banks blew into the Sennett factory Monday morning he swept down the alley and into the little office where, as advertising manager, he did volumes of work and looked wise to the uninitiated. He was a good man at that. Later in the day, when he steamed into the Sales Manager's office and busted up a tete-a-tete between that functionary and Reilly, the latter stared at him in amazement.

"Welcome, Chief"

"Welcome, chief!" saluted the Callawassa dealer. "How's the rest of the tribe?"

"Wuff! Wuff! Oglevitch umphumph!" Banks stood like a park statue and upheld his arm with palm to Reilly and played well at his role of big chief.

"You're right, no doubt," replied Reilly, and then they all laughed.

"I knew Reilly was part Indian, but I never suspected you," said the Sales Manager. Banks plumped himself into a chair and put his feet on the desk.

"I just dropped in to say hello and incidentally to ask you what you think of this scheme. It's a follow-up of new prospects that the dealers send in. We get out a series of letters like this." Banks laid several letters in front of the Sales Manager, who picked them up and glanced at them.

"What's the matter with that series you doped out about four months ago? I thought that was pulling nicely, with good final results."

"Oh, it is!" answered the Advertising Manager.

"Then why not keep it going? Why go to all the trouble and expense of

getting out a new set? And aren't there quite a few still in stock?"

"Sure!" replied the ad man. "But I hate to keep doing things in the same way. I like to do things new ways."

"Even if the old way is a tried and proved way and we know it is working well?"

"Certainly! Why stick to old ways?"

"Why change good ways?" retorted the Sales Manager.

and eat breakfast at night. Why don't you wear your pants backwards or put your legs in the sleeves of your shirt?"

The Sales Manager never smiled. He meant it. But Reilly snickered and Banks looked uncomfortable.

"New ways! Huh! New ways!" added the Sales Manager.

"But are they not good ways?" demanded Banks.

"Are they? How do we know? We haven't tried them, have we?"

"No," was the meek reply.

"Banksy!" The Sales Manager came down out of the air a trifle, and assumed a more mollified tone. "Banksy, you and I have been due for a little personal discussion for some time. We might as well have it now."

Don't Be Peevish

"What do you mean?" The Advertising Manager was startled.

"Let's not be peevish about it," pleaded the Sales Manager. "It isn't that I want to be unpleasant or anything like that, but I think I can show you something that may be of some assistance to you."

you."

"Well—Go ahead!"

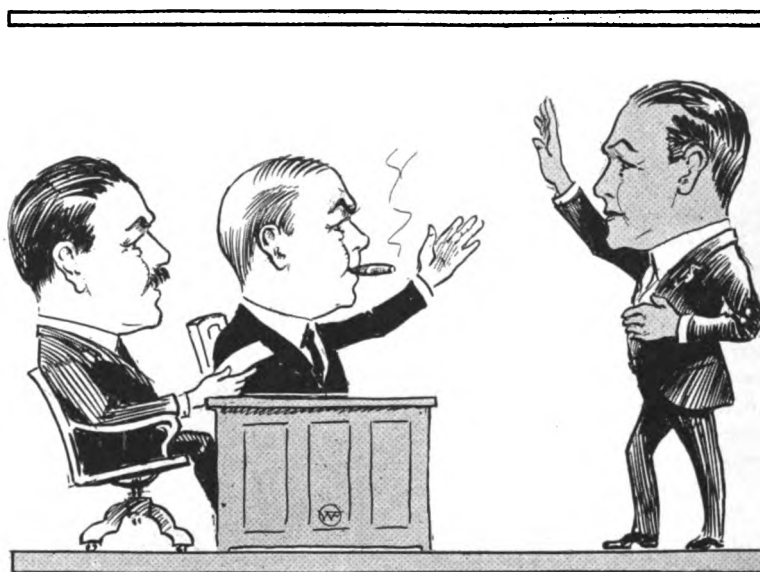
"You have been acquiring a bad case of mental instability," the Sales Manager "went ahead." "It has been growing on you. I presume it is because of your high-strung, nervous temperament and is only natural for you, but you should overcome it. It is going to floor you entirely in the long run if you don't get away from it."

"Go ahead, doctor! Proceed with the diagnosis!"

"It is really something serious, Banks; I'm in earnest. I've watched you for a long time, and I think you'll admit I'm right after I've told my story."

"Go ahead! Tell it! I'll promise not to get sore."

"You are the best advertising manager we ever had in this factory, and I'm not saying it to flatter you. It's true! Isn't it, Reilly?"



"Wuff! Wuff! Oglevitch umphumph!" Banks stood like a park statue and upheld his arm with palm to Reilly

The Advertising Manager shrugged his shoulders. He had no answer. It looked as if he were in a corner with no chance to get out.

"I should think it was a good plan to stick to a series of letters if they were pulling well—or to anything else, for that matter," contributed Reilly.

"I know—" began Banks. "I know, but I don't like to keep doing things the same way!"

"What Kind of Argument Is That?"

"Oh, bushwah!" retorted the Sales Manager, as he threw the letters on the desk with an attitude of disgust. "What kind of argument is that? I suppose if you were running the street car company you would run the Oak street cars down Pine street once in a while and have the people get on at the front and give their nickels to the motorman, or you would have beer served at cocktail time

"It certainly is!" backed up the Callawassa man.

"You have one of the most fertile minds I have ever come in contact with. You can produce original ideas by the barrel, but you need a production manager. And you've got to be that manager. Do you remember that series of ads you got out for our dealers a year ago? That series that was built upon a concerted train of sales thought and that pulled so well?"

"Yes."

"They were fine!" exclaimed Reilly.

"And do you remember that they hadn't been running long when you doped out a different series and discarded the other?"

"Yes."

"And do you remember that after you discarded the first series you got a lot of requests from dealers for the material for the series?"

"Yes."

"And do you remember the series of publicity stories you were putting out in which the dealer had his own name inserted and got the thing printed in his local papers?"

"Yes."

"And do you remember how you swapped that for a different scheme and how the dealers have since then written in and asked for more of the same dope?"

"Yes." Banks was getting so he could say yes nicely.

"Well, that's what I mean by your mental instability, or whatever you choose to call it. You get started on an excellent track, but you find it monotonous and want to change. Your fetish is change, change, change! Something new! Something different!"

"But—"

"I know what you're going to say," interrupted the Sales Manager, "and I agree with you. Too much of the same thing does become monotonous and ineffective, but too much change is almost as bad. It is even worse in its effects upon you. As an advertising manager you are an executive and must have stability. You must find the right course and follow that course. As you are going now you are jumping from course to course and you never follow one course long enough to get anywhere."

"Banks was thoughtful. Reilly said nothing also.

"You ought to sit down and give yourself a good once over. Make a study of your past performances and see how bad you can make yourself look. Then, with what I have told you in mind, watch yourself and get rid of this flipping, flopping tendency. If you don't you will be a red-hot starter but a mighty poor finisher."

"Is he right, Reilly?" asked Banks.

"I'm afraid he is," replied the dealer.

"Thank you, James," said Banks. "It must be true or you wouldn't have said

it, and if you weren't right Reilly wouldn't back you up."

"Where are you going?" asked the Sales Manager. Banks was half way out the door in his, as usual, rapid career.

"Out in the shop to take a think." And he was gone.

"Out in the shop?" questioned Reilly, mystified.

"He always does that," smiled the Sales Manager. "When he wants to think he wanders around the shop where he can hear the wheels hum. He says he can think better there."

Business May Be Bad Because Methods Are Bad

**Most Men Who Bewail Their Bad Fortune Have Only Themselves to Blame—
Good Business Methods Bring Good Business**

When asked, most repairmen will tell you that business is poor, that there is no money in it, and that it is hard to satisfy the average motorist. But occasionally a man will be found who disagrees; who claims that business is good, that there is a fair profit to be made and that his customers are all satisfied and invariably return for more work.

Investigation always reveals that the latter does his work in the shortest time possible by using the best methods; he studies each job and economizes his time by using his head and not his hands; if he can save by making a special tool he makes it, and no one ever catches him using an ancient monkey wrench where a socket or other special whench can do the work.

The result is that this man's bills for

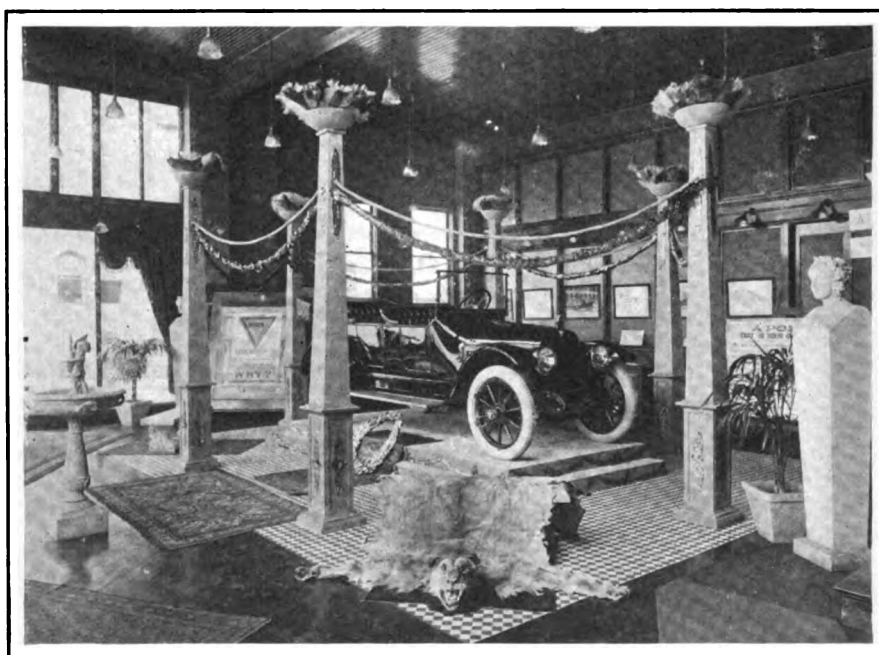
time are low, and the customers are glad to pay the bills and come back for more work.

The trouble with most shops is that big repair bills are often rolled up because a job is done by an old method instead of by the most efficient one.

For example, recently the Road Man saw fenders and a frame straightened in a very short space of time, and the cost to the owner was only one-fifth what it would have been if the average repairman had done the work.

Few realize the economy and convenience afforded by a paper baler—every large accessory store should have one. It requires less time to bale papers than to burn them, and the receipts from the sale of such waste will pay for the cost of the device in a few months.

An Example of Out-of-the-ordinary Salesroom Decoration



With the idea that the Hudson was the conqueror of the season, the Bemb-Robinson Co., Detroit Hudson dealer, recently gave the Hudson a "Roman triumph." To carry out the idea, the showroom was given a true Roman appearance. From a florist a bust was obtained, and a running water fountain of statuary. Gilded laurel wreaths and garlands were arranged around the beacon pillars which surrounded the car, set upon a dais at the center. The conquering hero, on his triumphal return to ancient Rome, was decorated with a laurel wreath. A great procession

was held in his honor, beacons blazed and banners waved in all the glory of a Roman holiday.

At one side a lion skin glared defiance at the intruder upon this gala ensemble, and at another a stone garden bench pleasingly filled the space. Oriental rugs did their part in the general effect, and one was placed so as to lead up the steps to the platform on which the honored car stood in all its glory. This and other Bemb-Robinson unique displays have created considerable comment, and there is no doubt whatever of their great advertising and sales value.

Facts About Cars

SLEEVE VALVES HELPED BY A LITTLE CARBON

The sleeve valve thrives upon carbon; instead of endeavoring to prevent an accumulation, all sorts of devices are resorted to in the various works where the sleeve valve is produced to cause carbon to accumulate. Providence deposits the carbon just where it is required, rectifying any small errors in clearances or adjustments or small ring leakages which may have crept into the construction. And the user is advised to be most careful about its removal—not to interfere with the deposit unless through some extraordinary conditions the character of the accumulation partakes of the scale-like formation which upon severe use of the motor becomes incandescent, as shown by its brown color and projecting scale-like form. Happily, such scale is seldom encountered, and when it may have formed as a result of the cause described, the user is advised to remove it, not with the use of a sharp-edged metal tool, but by employing a coarse, rough piece of fabric, which when rubbed heavily upon the surface to be cleaned, will serve to carry away the loose flakes, which could possibly cause self-ignition, without exposing the polished surfaces of the head and piston. A carbon deposit upon the cylinder head rarely takes the form of scales because of its perfect cooling.

The tendency to carbonize is growing with the lowering in the grade of the gasoline supplied for fuel purposes. In short, the principal source of carbon deposit is the imperfect combustion experienced regularly upon the road with carbureters and engines. It is doubtless true that road dust and lubricating oil have a considerable influence in the accumulation of carbon upon the surfaces of the explosion chamber and head of the piston and valves in an indirect manner, but the carbon itself comes largely from imperfectly consumed fuel. The lubricating oil furnishes the moist element which collects and holds this gasoline carbon from the time of the occasional periods of imperfect combustion until it is thoroughly burned off by later higher temperatures under full throttle.

A limited carbon deposit accomplishes two things: First, it increases to a limited extent the compression by reducing the compression space. Second, the coat of carbon acts as an insulator and prevents the transmission of heat from the piston top and cylinder head, which heat, instead of wasting through these walls into the cooling water or base chamber, is

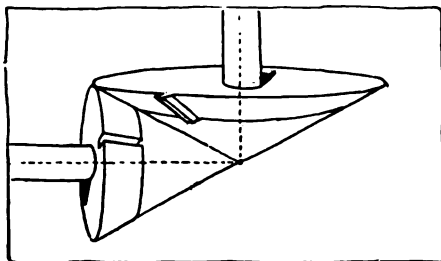


Fig. 1—Diagram showing conical shape of bevel gears

put to useful work. In the limited extent of this accumulation lies the secret of the non-knocking of the sleeve valve motor.—Chas. Y. Knight, in *The Auto-car*.

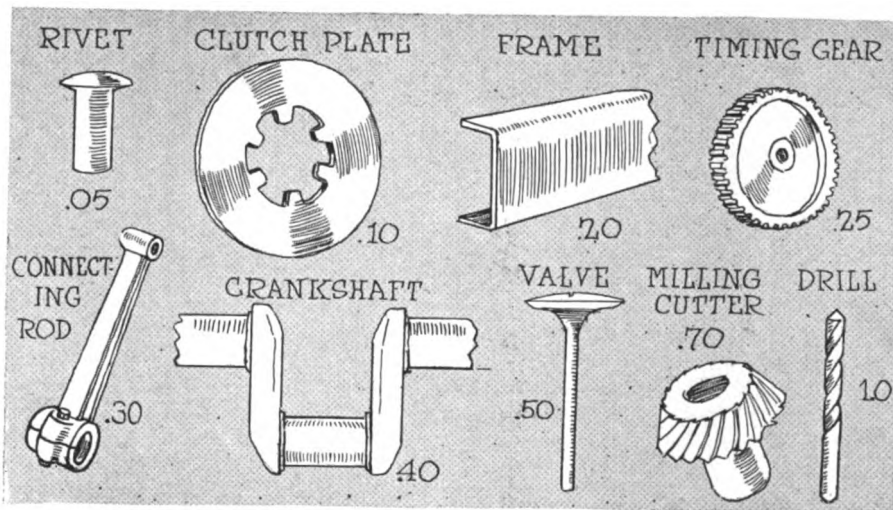
Effect of Altitude on Cooling

Changes in altitude have some effect on the cooling of the car; at 10,000 feet water boils at 193 degrees instead of 212, for example.

METRIC MEASUREMENTS AND INCHES COMPARED

In the metric system, which is commonly used in Europe, the meter instead of the yard is the unit of length. A meter measures 39.37 inches, or just a little more than a yard, which is 36 inches. One thousandth part of the meter is a millimeter, while the largest unit is the kilometer, which is a thousand meters. Below is a table showing

1 millimeter =	.03937 inches =	2 1/4/64 inches
10 millimeters = 1 centimeter =	.3937 inches =	12 1/2/32 inches
10 centimeters = 1 decimeter =	3.937 inches =	4 inches
10 decimeters = 1 meter =	39.37 inches =	1.1 yards
1,000 meters = 1 kilometer =	3,280 feet =	.62 miles



Carbon content of various steels. The softest is the rivet with .05 per cent carbon and the hardest is the drill with 1 per cent

the relations between the different French units and their approximate English equivalents.

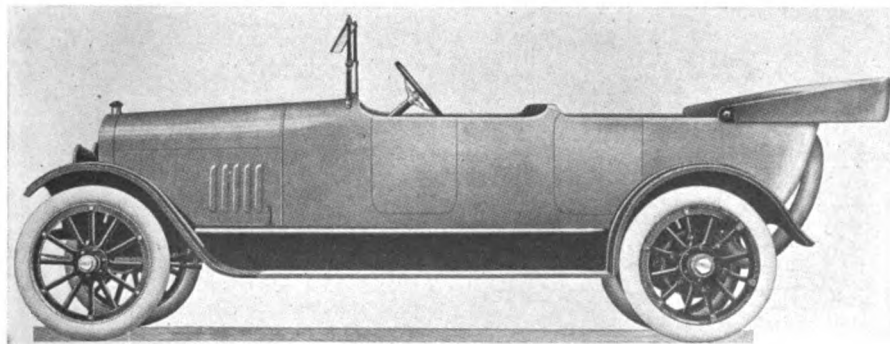
How To Sponge Body

Begin washing the car body by dipping the sponge well into the water, in order to pick up as much water as it will hold, and then begin at the top of the panels and dash the water obliquely and gently against the panels to loosen accumulations and cause them to drop off.

Another way is to squeeze the water out of the sponge at the top of the panels and thereby with the pressure of water carry away the mud or dirt. These are methods for the car that is washed immediately after use.

REASON FOR SPIRAL BEVEL'S QUIETNESS

Expressed in a few words, the object of the spiral bevel gear is to spread over several teeth in partial contact the load that, in a plain bevel, would be all upon one tooth, and to provide teeth that do not engage over the whole length of tooth at once, thereby lessening the shock as tooth meets tooth. The fundamental basis of the bevel gear is the cone, which means that if the axes of two shafts when produced intersect at a point it is always possible to find a pair of cones that will roll together perfectly when mounted upon the respective shafts, and the points of the cones will always coincide with the intersection point of the shafts. In forming an ordinary bevel gear the teeth are partly cut out of the surfaces of the theoretical basic cones, and partly built up on the cones, so the center line of each tooth may be regarded as being a line drawn on the surface of a cone, Fig. 1.



Straight body lines are a feature of the Enger twelve, which has a wheelbase of 115 inches. Rear springs are cantilevers

Enger \$1095 Twelve Has Overhead Valves

Valves Are Mounted in Detachable Heads and Each Valve Has a Separate Cam—New Car Takes Place of Six-cylinder Model

THE Enger Motor Car Co., Cincinnati, has placed on the market a twelve-cylinder car to sell for \$1,095. This takes the place of the six marketed last year. In general appearance the car is low and long, having a wheelbase of 115 inches and a straight line design which gives a long appearance. The small bore and stroke have given the designers an opportunity to keep the parts light and at the same time produce a compact engine. The cylinders are cast in two blocks of six and placed at an angle of 60 degrees.

Light weight reciprocating parts are a feature of the motor, the piston weight including rings, bushings, upper half of connecting rod and wrist pin totaling but 25.9 ounces. The length of the piston is $2\frac{7}{8}$ inches and the number of rings three. The connecting rod length is $7\frac{1}{2}$

ENGHER TWELVE IN TABLOID

Price, touring.....	\$1,095
Make of motor.....	Enger
Number of cylinders.....	Twelve
Shape.....	Overhead valve
How cast.....	Sixes
Bore.....	$2\frac{1}{4}$
Stroke.....	$3\frac{1}{2}$
S. A. E. rating.....	33
Ignition.....	Atwater-Kent
Gearset.....	3-speed
Wheelbase.....	115
Wheels.....	Wood
Steering.....	Left
Control.....	Center
Make of rear axle.....	Hess
Type of rear axle.....	Floating

inches and it is drop-forged from carbon steel. The connecting rod bearings are $1\frac{1}{8}$ inches in length and $1\frac{5}{8}$ inches

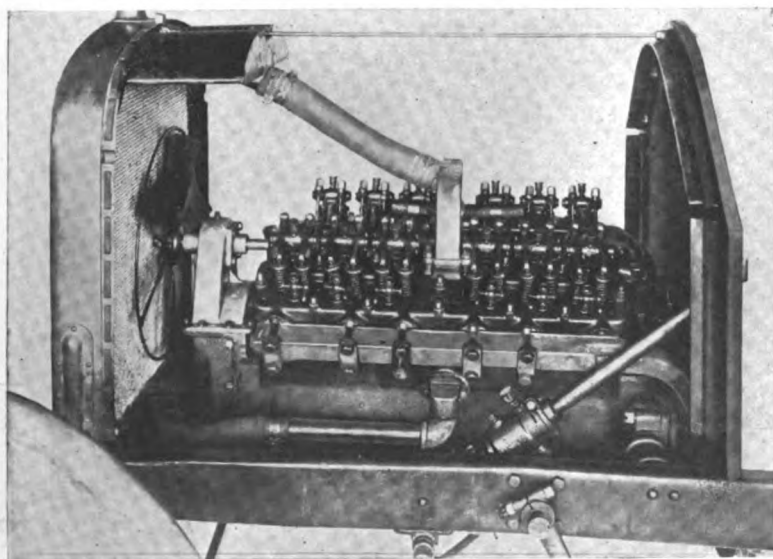
in diameter and the crankshaft bearings are $1\frac{3}{4}$ inches in diameter and $2\frac{1}{4}$ inches in length.

Following the practice which is rapidly becoming general throughout the entire field, cylinder heads are removable, making the motor readily accessible for inspection and cleaning. In the particular overhead valve construction used in the Enger the detachable cylinder head also provides an easy adjustment for the valve tappets.

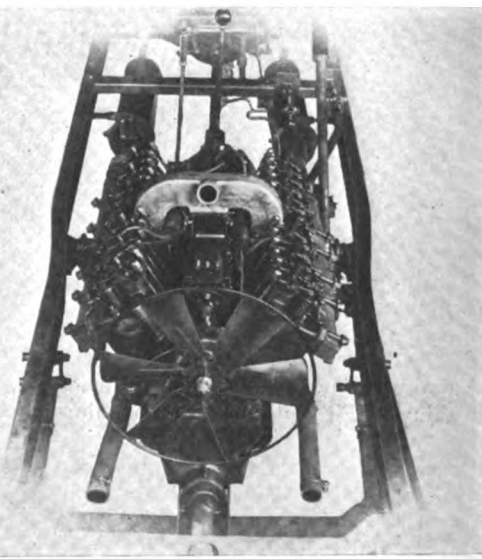
One of the interesting features of this design is the arrangement for valve drive. Each valve is operated by an independent cam. The camshaft is hollow, providing rigidity which is naturally essential in a unit of this nature. With the material massed at a distance from the neutral axis of the camshaft this rigidity is secured, while at the same time the bearing speeds due to the increased diameter are not high enough to be detrimental to the bushings. The hollow camshaft provides a method of lubrication which is very efficient.

Chain drive is employed for the camshaft. It is carried on three bearings which have respective diameters of $1\frac{1}{4}$, 2 and $2\frac{1}{16}$ inches. The rocker arms are carried along a common axis provided with grease cups between each pair of arms, all of these being accessible by merely lifting the hood.

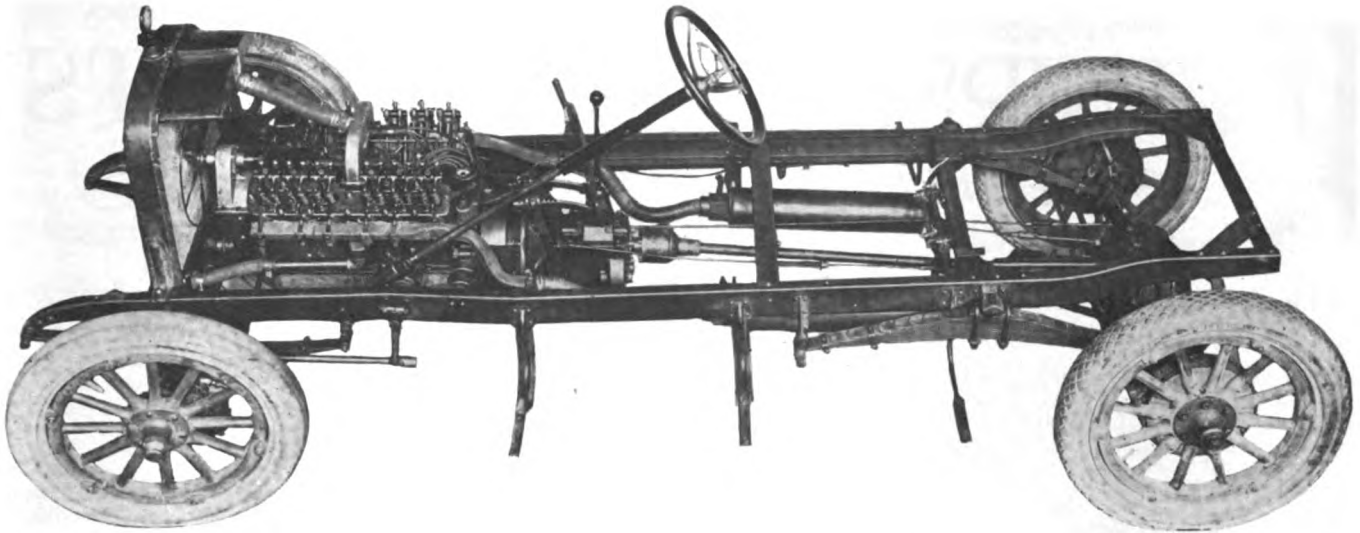
The cooling arrangement is interesting, there being two outlets from the radiator to the waterjacket intake. The water enters the cylinders on the outside of the V at about half the length and from this point is baffled so as to thoroughly cool the jackets for the full length of the motor. The water outlet from the cylinders is carried upward at the center through a common header and thence by rubber hose connections to the radiator. This arrangement provides a single inlet and a double outlet and thus allows the water to utilize all



The cylinders, with valves in detachable heads, are $2\frac{7}{8}$ x $3\frac{1}{2}$ and are cast in two blocks of six set at 60 degrees



The overhead valves are unusually accessible. Note the two water and exhaust lines



Chassis of the new Enger \$1,095 twelve, which takes the place of the former six-cylinder model. The motor and gearset are three-point suspended. Differential gears are of the spiral bevel type

the available area of the radiator without danger of having two separate streams with a pocket in the center.

The ignition drive is directly from the camshaft and provides either automatic or hand advance as desired. It operates in connection with a battery system and a timer-distributor is mounted at the rear of the engine.

An interesting point in the design showing the rigidity is in the mounting of the fan bracket. This is carried on a platform at the forward end of the motor with the fan shaft projecting through the housing, giving a firm support on both sides of the camshaft in taking the drive.

The clutch is mounted in the flywheel and the bell housing is continued back from the crankcase, giving a unit power plant. Three speeds are provided by the gearset, which is made up of $3\frac{1}{2}$ per cent nickel steel gears. The center control lever is mounted on the cover of the gearbox.

The drive is through two universals of the Hartford type to a Hess axle. The differential gears are spiral bevel and are carried on Gurney ball bearings. The hubs are provided with Bower roller bearings and the torque is taken care of by a torque arm mounted on the axle housing and carried to the rear cross member. The propulsive thrust is transmitted through the cantilever springs to the frame side members. The cantilever rear springs are long, extending forward to a point well up along the frame and giving a frame which should have an easy action on rebounds.

Other features about the chassis which should be mentioned include the mounting of the twin exhaust line with two independent mufflers which are swung between cross members and which provide independent outlets for the exhaust gases of each set of six cylinders. The frame is bottle-necked, allowing a narrow turning radius. The starting and

lighting systems are accessibly mounted, the starting motor meshing directly with the flywheel and the generator directly driven by chain at the forward end of the motor.

Standard equipment includes a slanting windshield, Gemmer steering gear, gasoline tank in the cowl, the Atwater-Kent ignition and a full line of accessories and tools.

Times Square Offers Car at \$695

A five-passenger touring car built from standard parts and selling for \$695 has been placed on the market by the Times Square Automobile Co., of New York and Chicago, which also handles rebuilt and used cars. The car is built in Detroit. A unit power plant is fitted, the Golden, Belknap & Schwartz motor having block-cast L-head cylinders, $3\frac{3}{4}$ x $4\frac{1}{4}$, Splitdorf Dixie magneto ignition and Stewart vacuum feed to the Schebler carbureter. Starting and lighting are effected by a single-unit Disco system. Power is transmitted to the three-speed gearset through a three-plate disk clutch. The wheelbase is 104 inches and the tires 30 x $3\frac{1}{2}$, non-skid in the rear.

New Madison Six at \$1,085

ANDERSON, IND., September 3—The Madison Motors Co. is bringing out a new six-cylinder model which will sell

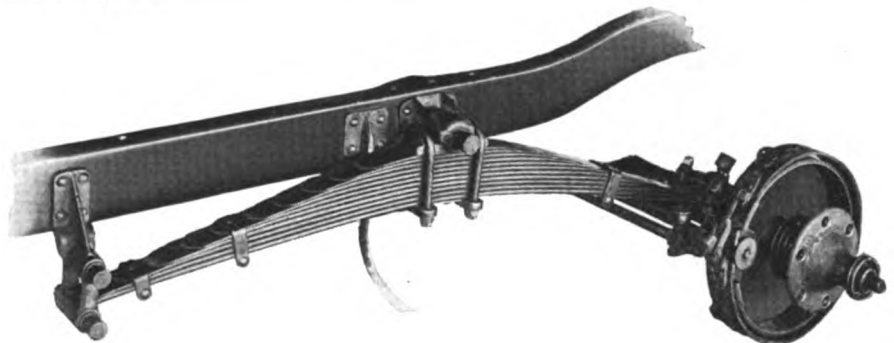
for \$1,085 as a seven-passenger touring car and \$985 as either five- or two-passenger car. It is powered with a 3 x 5 Rutenber motor, equipped with Remy starting and ignition; motor and gearset are in unit. The wheelbase is 120 inches and tires are 34 x 4. Stewart vacuum feed is included in the equipment.

Daniels Eight at About \$2,350

READING, PA., September 3—Geo. E. Daniels, formerly vice-president and general manager of the Oakland Motor Co., Pontiac, Mich., is about to place on the market an eight-cylinder car built in a factory in this city. It will be virtually a custom-made job and will sell for about \$2,350. It probably will have a Hershell-Spillman motor and the wheelbase will be 127 inches.

Plant For M. & S. Differential

SYRACUSE, September 3—The Brown-Lipe-Chapin Co. will equip the Lipe Model Works with special machinery to produce exclusively the M. & S. differential gear. The plant will also be used for making the special type M. & S. differential for Fords, though Ford replacement sales will continue to be handled by the M. & S. Gear Co., 1036 David Whitnev building, Detroit.



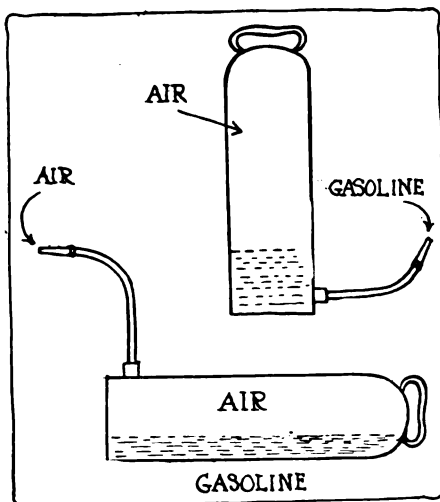
The cantilever rear springs are made sufficiently substantial to transmit both drive and torque stresses safely

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Compressed Air Motor Cleaner (No. 199)

Compressed air or sprayed gasoline for cleaning, are furnished by a simple tank, made out of an old fire extinguisher. It is filled with a quart or so of gasoline and then compressed air is added until the pressure is 100 or 150 pounds. The outlet hose is attached to the bottom of the tank. When the tank is horizontal and the discharge valve is opened only pure air is released, but if the tank is placed vertically gasoline issues. The nozzle on the hose is only 1/16 inch in diameter, so that the gasoline is finely sprayed by it. The air and gasoline are both used for cleaning.—B. S. Smith, Electric & Auto Co., Lorain, O.



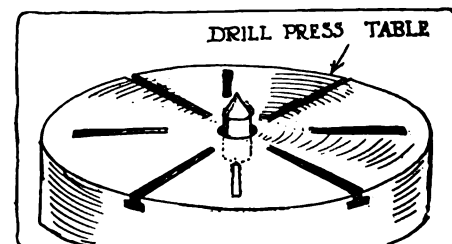
(No. 199)
Compressed air and spray cleaning outfit

Lamp for Circuit Indicator (No. 202)

A pilot light to show whether the current is on or not is a worth-while economy on storage battery charging circuits, electric vulcanizer circuits and the like. Without the pilot light there is always danger that the circuit may be closed when it should be open, and the light indicates this. Any small candlepower bulb of correct voltage may be used, and it is placed between the two wires of the circuit; in other words, it is connected in parallel with the device, whatever it happens to be.—H. B. West, De Weese Auto Garage, Lima, O.

Centering Pin for Drill Table (No. 203)

The drill center pin which is slipped into the center hole in the drill press table as shown herewith is a very simple but handy device, for it allows the ac-



(No. 203)
Drill press table with pointed center in place

curate centering of shafts which require drilling.

Swinging Case for Dies (No. 204)

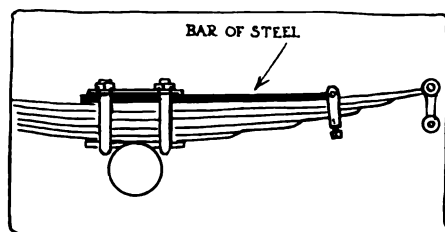
Dies and similar tools which are usually carried in flat wooden cases are often hard to get at when placed on a shelf. The simple arrangement shown is to obviate this difficulty. It consists of two pieces of iron with the ends bent at right angles, two of the ends being fastened to the shelf and the other two to the case. They are suitably fastened and thus allow the case to be swung out from the shelf, thus making access easy.—Wm. K. Knowles, Henry J. Adams, Fostoria, O.

Identifying Tube Repairs (No. 205)

To identify a tube repair, stamp the company initials in the tube adjacent to the patch with steel letter dies. When the tube is vulcanized the letters will be easily seen. The object in such an identifying mark is to prevent a dishonest customer from asking a repairman to make good somebody else's defective work.—G. H. Eckstein, Tacoma Auto Service Co., Cleveland, O.

Temporary Spring Repair Job (No. 200)

For patching a broken spring until a permanent repair can be made the device

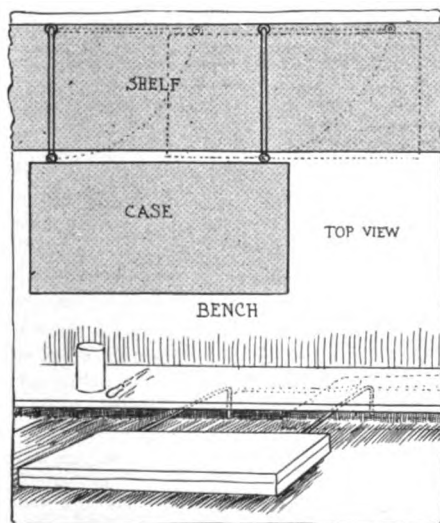


(No. 200)
Leaf spring repaired with bar of steel

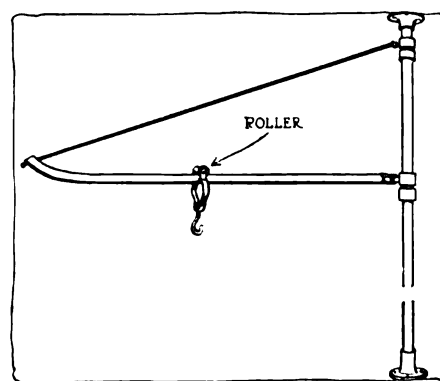
shown is excellent. It is simply a flat bar of steel with a spring clip riveted to the one end. The other end is slipped under the spring clips, which are loosened to receive it. Then they are tightened and a set screw in the spring clip in the other end is also screwed fast so that the broken members of the spring are locked solidly in place.—Joe Stern, Jackson Garage, Fremont, O.

Easily Constructed Jib Crane (No. 201)

The jib crane shown herewith will be found of great use in the shop, for it not only can be used for lifting but also for transporting, for it covers an area with a radius of 10 feet or more. It is made of three principal parts: the vertical shaft, which is very heavy 2-inch tubing; the boom, of the same material, and the crane hook and carrier which rides on the boom. The shaft is made solid at floor and ceiling and the boom is attached as shown. A 3/8-inch cable supports the end of the boom. Any kind of lifting tackle can, of course, be used in connection with this crane, but there is nothing better for all-round work than a good set of chain blocks which can be hooked to the traveler.—H. T. Belden, Fremont, O.



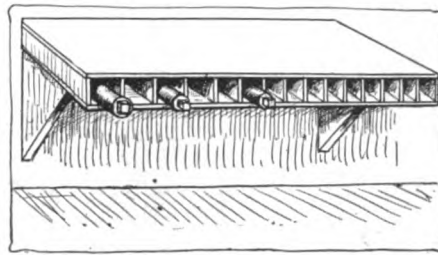
(No. 204)
Handy case for dies and other small tools



(No. 201)
Jib crane made up of heavy tubing and fittings

Reamer Case for Work Bench (No. 206)

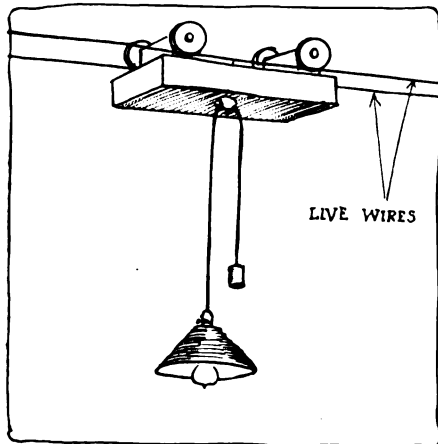
This reamer case is placed over the work bench and not only provides a good housing for these tools but is very accessible. It is made of $\frac{1}{4}$ -inch wood strips, the compartment heights are $1\frac{1}{4}$ inches and the widths according to the size of reamer.—M. B. West, De Weese Auto Garage, Lima, O.



(No. 206)
Reamer case with different sized compartments

Trolley Light for Stock Room (No. 207)

Just one electric light will be found sufficient for the stock room providing it is a movable one that may quickly be placed at any point in the aisle between the bins. A simple means of accomplishing this end is illustrated. Two live copper wires are strung over the aisle a few inches from the ceiling, and from them is suspended a car with metal wheels but wooden framework and axles. The current is carried from the wheels to the lamps through connections made on the frame of the car, and through a flexible wire cord which passes over a



(No. 207)
Stock room lamp with trolley on live wires

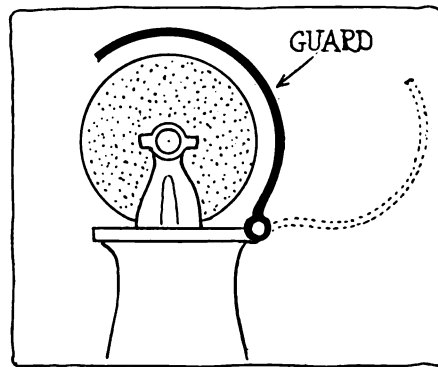
pulley and is counterweighted. Thus the car may be brought to any position in the aisle and the lamp placed at any height.—H. L. Summers, Broadway Garage, Findlay, O.

Truck for Crippled Cars (No. 208)

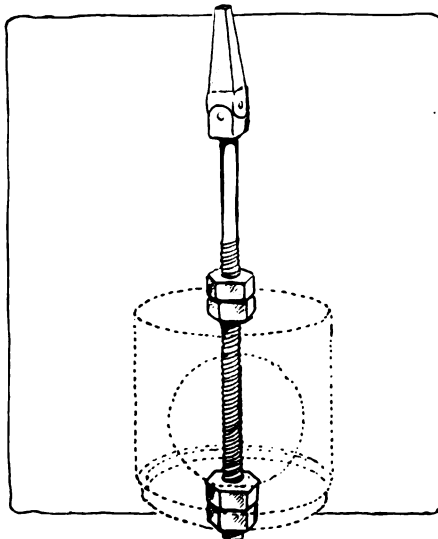
An unusually large truck for towing in automobiles with broken wheels or axles is shown herewith. It has a tread of nearly 5 feet, the wheels are 16 inches in diameter, and have steel shod rims 5 inches wide. A substantial steel axle is used and it is bolted to a 7 x 9 beam which forms the member on which the axle of the disabled car rests. The tongue of the truck is 10 feet long and has a section 4 x 6 inches.—W. C. Huber, Fireproof Garage, Dayton, O.

Foot Pump as Grease Gun (No. 209)

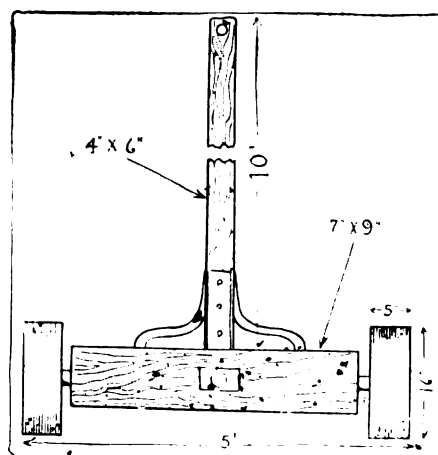
A foot pump with a short length of pipe in the end for a nozzle makes an excellent grease gun and can also be used as a syringe for sucking the grease or oil out of a motor or gearbox, etc., not provided with a drain plug.—W. W. Wright, foreman, Cleveland Cadillac Co., Cleveland, O.



(No. 211)
Emery wheel guard which can be swung out of the way



(No. 213)
Grinding scheme for overhead valve cages



(No. 208)
Heavy truck for towing cars with broken axles

Magnifying Motor Knocking (No. 210)

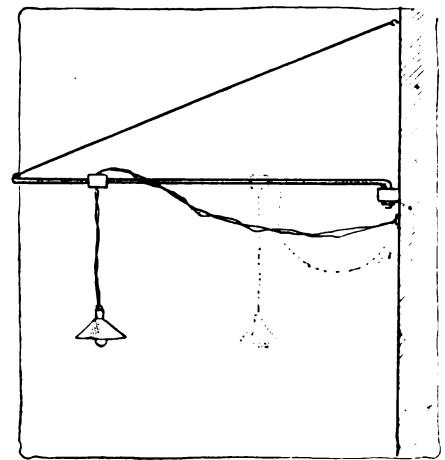
A good way to magnify a motor knock is by the use of a long pine stick $\frac{1}{4}$ inch in diameter. One end is placed near the knocking part and a finger is put over the other end and the ear laid over it.—G. H. Eckstein, Tacoma Auto Service Co., Cleveland, O.

Emery Wheel Guard (No. 211)

An emery wheel guard that can be thrown back when large work is to be done can be made of a heavy piece of iron stock the width of the wheel curved to shape and installed as shown.—G. H. Eckstein, Tacoma Auto Service Co., Cleveland, O.

Convenient Lamp Fixture (No. 212)

An adjustable lamp fixture that allows the lamp to be placed, not only over the bench, but any place within a radius of



(No. 212)
Swinging arm with sliding electric light

10 or 15 feet, can be made by attaching the lamp to a boom which is supported from the wall. By suspending the lamp from a block which slides on the boom the lamp may quickly be brought to any desired position.—H. L. Summers, Broadway Garage, Findlay, O.

Grinding Valve Cages (No. 213)

When the valve cages of overhead valve motors become leaky they may quickly be reseated by the tool shown. It is merely an iron rod, threaded at one end to receive four nuts to hold the cage. The other end of the rod has a squared shank to fit an ordinary brace and is provided with a universal joint so that the work may be done at any angle. The valve seats are ground in the same as a valve would be.—J. F. Taylor, Xenia Garage, Xenia, O.

Carbon Burning Precautions (No. 214)

To prevent a fire when burning out carbon it is wise to remove all traces of gasoline from the carbureter, intake manifold and cylinders by shutting off the gasoline and then operating the motor until all fuel remaining in the carbureter is consumed.—G. H. Eckstein, Tacoma Auto Service Co., Cleveland, O.

WIDE-AWAKE MERCHANDISING

CHARGE SHOULD BE IN PROPORTION TO SERVICE

Little Fellow Shouldn't Help Pay Big Fellow's Bill

More car sales, more business for the garage, and consequently greater profits would result if the policy to make a fair profit on every transaction were consistently carried out; this is especially true in the larger cities. Some of the resulting evils are well recognized and others are not, but they all should be abolished by application of the principle stated above.

In many of the large cities the big car owners help pay the rent of the small cars because many garages look for their profit not on the storage, but on the sale of gasoline at a big profit; since the big car often uses three or four times as much fuel, it is the big car owner that pays. This retards the sale of big cars to a certain extent, and it also results in the garageman losing a large portion of his business to gasoline filling stations.

Flat Rate Not Logical

It is usual for a garage to charge a flat rate for storage, washing and polishing, with the result that some owners are overcharged, and on others the garage loses money. By making a separate charge for storage and charging for washing and polishing by the hour this trouble could be avoided.

To take the two extremes, to show the fallacy of this policy, two men have the same makes of car, one has a chauffeur and his car is driven every day, and is washed 20 times a month; the other man drives his car about five times a month and since he is very careful about keeping it spotless it is only washed twice. The latter receives only one-tenth the service yet he pays the same rental; in other words, he helps pay the other man's bill. This man is in moderate circumstances; he has several friends that could afford to own cars if garage charges were not so high; they could afford to pay for the space

the car takes up, and also for having it washed when absolutely necessary, but they are unequal to the strain of helping out the fellow that requires ten times the service they do.

ONE IDEA THAT BROUGHT \$105 IN BUSINESS

REVENUE FROM THE FIRST 12 CUSTOMERS BROUGHT IN BY ROAD SIGNS

Storage	\$9.00
Tire	40.18
Car repairs.....	12.50
Gasoline	13.50
Oil	4.00
One tube.....	5.40
Tire chains.....	3.50
Road guide.....	2.00
Accessories	8.25
Tube repairs.....	6.50

Total\$104.83

A single idea that was put to work by Jud S. Joslyn, of Rockford, Ill., is earning him hundreds of dollars. He saw a little story one day in Motor World about the value of road signs that direct the tourist to a garage.

Forthwith Joslyn had printed a big lot of plain, cheap paper signs, 5½ x 11 inches, and began to paste them with a bucket of waterproof paste on all the trees, fences and stone walls within 40 miles of Rockford. The results were a surprise to him. The first twelve customers that came in left \$104.83 with him, and he made about \$25 on the business they brought him.

Will Put Up 5,000 Signs

At that time he had put up but 300 signs, and he plans to paste up 5,000. He is putting them everywhere, and is sure of the results because many car owners who come to him state that they did so because of the signs. Incidentally, the copy of the paper which gave him the profit-paying idea cost him less than 4 cents. Joslyn is the proprietor of the Joslyn Automobile Co. and has revamped his accessory business on the plan in Motor World's Campaign for Greater Profits, as was told in Motor World, June 23.

IMPROMPTU SHOW THAT SOLD CARS

Boston Dealers Take Advantage of Baseball Crowds

A short time ago the new ball park of the Boston National team was opened and 46,000 people attended the game, while 6,000 more were turned away. It is located on Commonwealth avenue nearly opposite some of the motor agencies. There was such a big swarm of people and motor cars all around for some hours that Harry Fosdick, of the Wentworth-Fosdick Co., that has just taken on the Dort, decided to have a motor show. He ran the new car out in front of his salesrooms on a grass plot on the sidewalk. He had a sign on it, giving the name and price. In a short time scores of people were examining the car and inquiring about it.

Next door, the White Co. saw what was going on and soon a new White was outside on its space. Then the Kissel manager got busy and did the same, and V. A. Charles, who has the Briscoe, put out one of his models. For a couple of hours hundreds of people went along from one car to another and it was like a busy day at the automobile show on a small scale. Fosdick says that he got the names of several good prospects, and also closed up with some men to handle the car as agents.

**Joslyn
Garage
ROCKFORD →**

**Joslyn
Garage
← ROCKFORD**

Two of the signs that Joslyn put up to let tourists know the location of his garage

Farm Machinery Service

When the Car Owner Asks Excessive Service Tell Him This Story

By Robert Foster

Each year I spend part of my vacation on a farm in the northern part of New York state, and I have noted with interest the difference in the service the farmer gets with his farm machinery and his automobile; an unusual amount of service is exacted from the automobile dealer, while the farm machinery salesman gives very little. Three years ago the man with whom I boarded purchased an automobile and a binder, at about the same time, and this has afforded me a good opportunity to study the difference as far as service goes.

When he bought the binder he bought it without a demonstration; he not only paid full price but he also paid the freight; neither were the two dozen balls of twine or the sheaf carrier thrown in; he did not trade in his old binder as part payment for the new, but he was obliged to sell it himself. He did all these things without a murmur of protest; he knew that he was being fairly treated throughout the whole transaction, and to ask for any favors would have savored of charity.

Dealer Coaxed Out of Service

But when he bought his automobile, he traded the old one in at a good figure; he coaxed the dealer to give him an extra tire and tube; and when the dealer sent him a bill for the freight after the car was delivered he laughed at the idea of paying it—that was up to the dealer. It had taken the dealer three full days to sell him the car, yet it took only about a tenth of this time to sell him a binder.

There has never been any dispute between the farmer and the man that sold him the binder regarding service of repairs. Soon after the machine was put to work the pitman rod, which drives the knife, buckled. The material was defective and the part was replaced free of charge. Later, the arm buckled again, but this time it was due to a stick of wood catching between the knives. It was really nobody's fault, but the farmer knew that he could not hold the binder company for a new one and he did not try to. Likewise, when a bushing on the driving shaft burned out because of lack of grease, the farmer admitted his fault and paid for a new one.

When his automobile gave trouble it was a different story. Whether it was

his fault or not, he always expected the dealer to make good. After he had had his machine for a few days he scratched the body by running into some bushes. Immediately he called up the dealer to see if he would fix it. He expected the work to be done free, and he wanted a good job. He said that he thought the dealer could well afford to shoulder this small expense after just selling him a car. Finally the dealer agreed.

Time went on and the car ran well until one day he noticed that his starting gear was becoming noisy. Examination by the dealer showed that a bearing had been cut due to lack of oil. The owner claimed that the dealer should make good because he did not know that this part should be oiled. It was a false claim and the dealer knew it, but he was afraid to lose this man's trade, so compromised and charged only for the labor.

This year I noticed that the automobile dealer is no longer in business, and my farmer friend is worrying because there is no place conveniently near where he can take his car when it needs expert attention, yet it is his own fault—he dug his own grave.

The dealer in farming machinery, needless to add, is still in business.

THIS WASHING CLUB IS POPULAR WITH FARMERS

The Auto Washing Club—Have you heard of it? No, it is not a social organization, neither is it a cooperative plan. It is a brand new idea, however, and is paying the originators well. The "Club," which had its birth in Findlay, O., offers six washes for \$5, gives day or night service, calls for and delivers cars, and furnishes free air. Two men, Bob Clark and Bob Long, are actively interested in it, and they claim that there is a good profit in the work. The wash rack in Barnhart's garage is leased for a small figure and the total expenses per day, excluding salaries to the two men, are not over 50 cents. Some days as high as 12 cars are washed and polished, for the latter is included in the wash, and this means receipts amounting to \$10, and about \$9.50 of this is profit. The scheme has proved to be especially popular with the farmers.

JUST FOR A MOMENT!

There was one garage where the Roadman was given a friendly greeting and where he had an interesting talk of about 20 minutes with the proprietor, when the latter was called away, "Just for a moment," he said. Meanwhile the minutes flew by until half an hour had elapsed, when a search revealed his talking with his shop foreman. He apologized for keeping the Roadman waiting, but how much better it would have been if he had shown more courtesy and consideration by returning sooner or at least sending word?

LACK OF SYSTEM MAY LOSE SALES

Clerk Said "Not in Stock;" Proprietor Found It

The other day a man walked into an accessory store, asked for a certain make of spark plug, and was informed by the clerk after the latter had made a hurried look that there was none to be had. Fortunately the proprietor overheard the clerk's statement and promptly located a box full of the make of spark plug desired.

Who was at fault? Was the clerk careless or did the defect lie in the system? At least part of the blame should be laid on the clerk, for he should have known what stock there was in the store; furthermore, when he thought that there were no more of this brand of spark plug he should have checked up his impression by asking the proprietor of the store.

But the store was also partly to blame; it should have had a card index or something of the kind to show whether there were any spark plugs of this type on hand, and the plugs should have been kept in their accustomed place so that there would have been no chance of the clerk overlooking them. It is only by keeping alert to trivial incidents such as this one that the proprietor can hope to guard his trade against careless clerks.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



The Splitdorf Electrical Co., Newark, N. J., is supplying this attractive silent salesman to its dealers for counter display. It shows four different types of Splitdorf plugs and the back is arranged to hold an assortment of 100 plugs. Another counter device is a polished wood cabinet containing four "Common Sense" plugs and a socket wrench complete with handle. This outfit sells for \$4 complete.



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Business Fertilizer

The TWENTIETH installment of Motor
 World's Campaign for Greater Profits

ADVERTISING is business fertilizer; without it business would wither and die. Some dealers realize the truth of this adage to a greater extent than do others, and to those who may not have come a true realization of the value of advertising the story which appears on pages 5, 6 and 7 of this week's Motor World is recommended. Here was a man who set himself the not altogether easy task of selling used cars—nothing else. He quickly came to know that to be successful he must let others know that he wanted that success and wanted it badly.

Today he is successful. He has reached the goal for which he was striving. And a careful analysis of the reason for his success forces the conclusion that it is due primarily to his originality and his cleverness in advertising. He made his name a catch-word; he fixed the location of his business firmly in the minds of everyone for miles around. Advertising built his business.

Capitalize Good Will

IT IS a matter for more or less speculation why the garageman who sees his business gradually leaving him because of the increasing use of the private garage does not take the one means open to him to cash in on the good-will he has gained through courteous treatment of those who are leaving him.

When any car owner leaves a public garage to occupy one of his own there are a dozen things he

must have about which he knows nothing until he leaves the garageman's doors. He must have soap with which to wash his car; he must have polish to polish the bright parts; he must have waste, oil, tools, perhaps a drip pan or a fire extinguisher.

Garageman's Word Carries Weight

The best man to sell him these things is the garageman. The garageman has gained the good-will of his erstwhile customer. His word carries much weight. He can sell these things to the car owner without half trying. And the only reason he does not do it, in the majority of cases, is that he has not the stock of accessories. How simple is the solution to this problem, and how easy the profits that go with it.

Value of Standards

PROBABLY there are not many dealers, garagemen and repairshop operators who appreciate the true significance of the excellent standardization work which is being done by the Society of Automobile Engineers. To many of them, this work must appear too closely allied to engineering, and therefore of little practical value to them.

That this is not the case, that all this standardization work has a direct and definite bearing should be plain from a little study. It means much to the garageman that fan belt sizes have been standardized and that because of the standardization of cotter pin sizes but a few different sizes must be carried in stock as against many that were necessary heretofore. Similarly, there is much value in this work to the car dealer for it gives him an additional talking point; he can make plain to the prospective purchaser the possibility of obtaining standard parts almost anywhere.

This and all the standardization work which this body of engineers is doing is a great and good work, the benefits of which will be felt for many years.

Closed Car Sales

THERE will be a far greater demand for closed cars this fall than ever before and this should have a far-reaching effect on every dealer's business. The difference in price between an open and closed model has become smaller year by year until now it is as little as \$200, in some cases. Likewise there has been a drop in weight. The big cumbersome limousines of a few years ago have given way to lighter constructions which are little more expensive to operate than the corresponding open models.

The public is just beginning fully to realize the full advantages offered by the closed car, and a canvas of some of the representative manufacturers shows that closed car sales will be greatly augmented this fall. This means that the dealer must gauge the demand of his territory carefully and order accordingly, and the sooner this is done the better, for some manufacturers expect a closed car shortage.

Inroads by Independents Being Felt by Standard

Addresses Before Independent Petroleum Marketers' Association State
Sales Are Dropping Rapidly
—War Predicted

MILWAUKEE, September 2—Vast inroads have been made by independent petroleum marketers upon the business of the Standard Oil Co., according to statements made in addresses before the eighth annual convention of the Independent Petroleum Marketers' Association of the United States in Milwaukee from August 24 to 27. Authoritative statements were made that since the organization was formed seven years ago the independents have increased their proportion of total sales from a bare 20 to a good 45 per cent, reducing the proportion of the Standard from 80 to 60 or 55 per cent. In Wisconsin, where the Standard operates about 130 stations, it markets about 50 per cent of the quantity of light goods sold, while its sales in the large manufacturing centers are only 25 per cent.

The filling station was called the ultimate solution of the marketing of gasoline for the independent dealer because of the additional profit gained through cutting the overhead expense. Talks with representative jobbers disclosed the fact that a great gasoline war is sure to come because of the extraordinary demand for fuel from motor car owners and the strong competition between the Standard and independents.

Edward A. Wadhams, Milwaukee, pres-



G. L. WIGTON
Paige-Detroit, Minneapolis

District Representatives

XXIII

This is No. 23 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

G. L. Wigton is district representative for the Paige-Detroit Motor Co. with headquarters in Minneapolis. He first entered the motor car industry in the year 1910 when he became affiliated with the sales department of the Studebaker Corp. He remained with the Studebaker Corp. until 1913, having been located in various cities. He then joined the sales force of the Buick Motor Co. and remained with it a few months until the closing of the Cleveland branch. Since then he has been with the Paige-Detroit company. His territory includes Minnesota, Wisconsin and the upper peninsula of Michigan.

ident of the Wadhams Oil Co., was re-elected president of the association. A resolution was adopted to incorporate in the State of Illinois under the name of Independent Oil Men's Association. Directors were elected as follows: Edward A. Wadhams, Milwaukee; A. H. Wieman, Freeport, Ill.; F. E. Van Tilburg, Minneapolis; A. H. Caward, Waterloo, Ia.; H. H. Kellogg, Chicago; M. J. Byrne, Waterbury, Conn.; T. J. Gay, Little Rock, Ark.; and Gay Sweeney, Peoria, Ill.

St. Louis Independents Fight

ST. LOUIS, September 2—The latest skirmish in the so-called gasoline price war between the Standard Oil Co. and the independent dealers in the St. Louis district has developed into a test of en-

durance between the belligerents. Ten days ago the independents raised the price of all grades of gasoline 1.1 cents a gallon and announced that this was the first of a series of increases by which they hoped to bring the price of gasoline back to the figure which the Standard Oil Co. had cut in half during the 18 months war.

The independents predicted that the Standard would follow their lead in increasing the price of oil just as the independents had followed the lead of the Standard, eight times reducing the price 1 cent. But the local branches of the Standard have not yet brought their prices up to those of the independents and show no indication of doing so in the near future, despite the hope of the independent dealers.

Oldest Dealers

Men who have handled one car for the longest period of time. Others will appear in this series.



E. J. MONTIGNY
Stutz, Brooklyn

THE second oldest dealer of the Stutz Motor Car Co., Indianapolis, is E. J. Montigny, 1281 Bedford avenue, Brooklyn.

Before acquiring the Stutz agency Montigny ran a garage at 33 Grant square and had the Abbott-Detroit agency; he sold the garage but retained the agency, but both garage and salesroom were cleaned out by fire. Montigny then obtained the Stutz agency—in August, 1911—and received his first car, No. 106, in September. As he describes it, it was "a good looker with a bark like a tug-boat and could scoot over 63." He did not sell a car until February of the following



Montigny's Brooklyn Stutz salesroom on Bedford avenue

year, but then made up for lost time by selling 25 in quick succession, and has been selling them ever since. His salesroom is unusual in that three sides are used for display.

The RETAIL NEWS

EAST

The Union Garage Co., Washington, D. C., has established an exchange department to operate as a clearing house for used cars. Storage will be free pending sales. L. J. Robinson, formerly assistant postmaster of Washington, is in charge.

The Semmes Motor Co., Inc., Washington, D. C., has been formed by the amalgamation of the Congressional Garage Co., Semmes-Kneessi Co. and the Semmes Motor Line. The officers are: C. W. Semmes, president; Howard G. Kneessi, first vice-president and treasurer; Raphael Semmes, vice-president and secretary. The company will continue to handle the Hudson, Dodge and Wilcox and Vim trucks, and also the three motor bus lines to Brandywine, La Plata and Leonardtown, Md. Plans for a large salesroom at 1132-34 Connecticut avenue are being drawn and the work will be pushed rapidly.

The Roman Automobile Co., Philadelphia, has opened a branch at 942 North Sixth street, Reading, Pa., for used cars. The agency has been placed in charge of Charles Troelsch and Fred Keefer.

The Hope Machine Co., 2310 North Second street, Philadelphia, has awarded the contract for erecting a two-story machine shop and garage, 34 x 42 feet, at 2311-13 North Philip street.

The A. & H. Garage has been opened at 1308 and 1310 North Fulton avenue, Baltimore, by Howard Anderson and Victor P. Hallwig. Eighteen-hour service will be given and repairing will be done. Supplies also are stocked.

The Pullman Motor Car Co., York, Pa., has opened a direct factory branch at 1892 Broadway, New York city. Henry Drouet, formerly with the Pullman Sales Co., New York, will be in charge.

The Henshaw Motor Car Co., Boston agents for Dodge Bros. cars, has leased the building 915-921 Boylston street that was built especially for the E. R. Thomas Co. when it opened a branch at Boston with Henshaw in charge.

Joseph W. Gogarn, who was recently given the agency for the Mitchell line in New Haven, Conn., has been made agent for the entire state as a distributor for the Carl H. Page Motors Co. of New York.

The Baltimore branch of the Winton Co. will occupy its new quarters at Charles and Oliver streets in the near future. A large building is now being constructed. William L. Duck is the manager.

Strother Davis, Johnstown, Pa., Oakland dealer, has opened salesrooms at 433 Locust street.

The Motor Square Auto Supply Co., Pittsburgh, has opened an accessory and supply store in Motor Square Garden, Baum boulevard.

C. W. Jones has opened a Reo service and sales station at 1113 Chapel street, New Haven, Conn.

Frank F. Leflan, Philadelphia, has awarded the contract for the construction of a one-story garage 55 x 244 feet at a cost of \$15,000.

The Mountain City Garage Co., Frederick, Md., has been formed, with M. E.

Kefauver as president. The capitalization is \$25,000. A modern plant will be established, including a fully equipped machine shop. H. M. Cramer has been appointed manager. The Paige car will be handled.

R. E. Trimble, Washington, D. C., will build a garage at 1322 D street at a cost of \$9,000.

The Becker-Stutz Automobile Co. at 911 Boylston street, Boston, will hereafter handle the Stutz in that city.

The Standard Garage, 418-434 North High street, Baltimore, Md., has been opened; 125 cars can be accommodated. A line of accessories is stocked and there is a completely equipped repairshop.

The Howard Street Garage, Lowell, Mass., has the largest repair department, which now occupies practically all of the third floor. New and modern machinery has been installed.

Browning & Otto have opened a repairshop and accessory store at National Road and Sixth street, Wheeling, W. Va.

A. M. Larson, Waterbury, Conn., will build a three-story garage, 100 x 100 feet, at Maple avenue and Maple street.

The Argo Motor Sales Co., Buffalo, N. Y., has changed its name to the Smith Motor Sales Co. H. E. Smith retains the presidency. The company handles Maxwell and Chandler cars. It is located at 725 Main street.

Frank Munroe, Oneonta, N. Y., will erect a one-story garage, 60 x 95 feet, at a cost of \$5,000.

Harold Brockway will build a two-story garage, 40 x 132 feet, at Richfield Springs, N. Y.

The Albany Garage Co., Albany, N. Y., has awarded a contract for the construction of a three-story 75 x 75-foot addition to its garage.

The Regal Motor Sales Co., Boston, has prepared new quarters at 570 Commonwealth avenue.

Russell H. Clark & Co., Kansas City, Mo., have succeeded to the business of the Simon Bros. Mfg. Co., 1529 Oak street. R. H. Clark was for several years manager for the Simon company, which made tops and handled repairs. The new company probably will add more extensive repair equipment later.

The Ray Rose Automobile Co. has been formed in Dallas, Tex., and will distribute the Saxon in 122 counties. The new organization consists of E. N. Ray, E. W. Rose and J. V. Hardy.

Metcalf & James have opened a tire salesroom in the New Dom building, corner Church and Trumbull streets, Hartford, Conn., and will feature Firestone tires. The Hartford establishment is in a sense a branch of the New York city house at No. 245 West 57th street. R. B. Metcalf and J. G. James form the firm.

Felt Bros, Philadelphia, are building a garage at 1410 North Broad street, which will be two stories high and of brick and concrete, 38 x 200 feet.

J. W. Bowman, who has the Maxwell line in Boston, has added the Velie cars and trucks.

The Rauch & Lang St. Louis Co., 3118 Locust street, has changed its name to

Leach-Brouster & Co. There has been no change in the personnel of the company headed by R. W. Leach and H. G. Brouster, local distributor of the Baker and Rauch & Lang electrics.

The Waco Double Tread Tire Co. has been formed in Dallas, Tex., by J. M. Ware and W. O. Bray.

The Overland Service Corp. at Enid, Okla., has been incorporated under the laws of Oklahoma for \$5,000. The incorporators are: T. F. McBruler, E. L. Gaddis and Guy S. Mannatt.

SOUTH

The R. A. Thornton Auto Co. has opened a repairshop for Ford cars at 915½ South Third street, Louisville, Ky.

The Martin Motor Co., Louisville, Ky., which has acquired the agency for the Velie, has opened an office and salesroom at 437 South Second street. Walter C. Martin is head of the concern.

Clyde Sneddon has opened a repairshop in the rear of 917 South Third street, Louisville, Ky.

The Two In One Tire Co. has opened a shop and office at 323 West Market street, Louisville, Ky.

The Carolinas Automobile Supply Co., Charlotte, N. C., has opened for business at 241 North College street. An accessory and supply stock of large proportions is carried.

The Owensboro Motor Car Co., Owensboro, Ky., Studebaker dealer, has opened a new garage and salesroom at 318-23 Fredricka street. O. C. Williams is manager.

SOUTHWEST

The Battery Service Co., St. Louis, has taken over the business of the Master Storage Battery Co., 2380 Locust street. All makes of batteries will be handled and an exchange system will be established. It is proposed ultimately to manufacture batteries.

Griffin Bros., Eldorado, Ark., have bought the Ford agency and garage formerly operated by F. L. Helwig, Dick Cash and John Henry Pinson. P. C. Griffin is manager of the new company.

Thomas and Alfred Newlon have purchased the Eggleston & Sons garage on South Main street, Butler, Mo. Machine tools will be installed and an expert repairman employed.

The Farmers' Supply Co., Sterling, Kan., has been appointed Ford agent for its territory.

Regan Dickard has opened a supply station and repairshop at 104 East Fifth street, Austin, Tex. A complete line of accessories will be stocked.

Maxwell & Gilliland have opened a Ford agency and accessory store in Gatesville, Tex.

Will R. Ede has purchased the S. L. Henderson Garage, San Antonio, Tex., for \$15,000 and will continue to operate it.

The United Sales Co. has been organized in St. Louis to handle retail sales of U. S. tires. The salesroom is at 3567 Lindell avenue.

The Cone-Harris Motor Car Co., Pine Bluff, Ark., is a new firm which will handle Jeffery cars and Kelly-Springfield tires. It will locate at 208 West Baraque street.

The F. G. Smart Auto Co., Pine Bluff, Ark., Ford agent, has moved to new quarters at 215 West Baraque street.

The Tappan Hardware Co., Helena,

Ark., has awarded the contract for a garage to be erected on the site of one recently destroyed by fire. The building will be rushed to completion and will be of fireproof construction.

NORTHWEST

Wm. Stump, Fall City, Neb., has purchased the Cook garage on 17th street and will continue its operation.

The Watson Automobile Co., 523 Sixth street, Sioux City, Ia., has awarded the contract for the construction of a two-story garage, 100 x 150 feet, to cost approximately \$25,000.

MIDDLE WEST

The Higgins-Sutherland Motor Co., 644-46 North Meridian street, Indianapolis, Ind., is successor to the Higgins Motor Sales Co. The firm name was changed when R. L. Sutherland was admitted as part owner. The company handles the Hupmobile and Saxon.

E. E. & W. H. Chenoweth, Glen Karn, O., have purchased the Ford agency for Harrison township and will open a repairshop. Accessories will be stocked.

Strutzel Bros., Joliet, Ill., have taken over Tommy Gay's garage on East Main street and will remodel it. They will handle the Ford.

J. Seepe & Co., La Salle, Ill., is having plans drawn for a garage. It will be built of brick and concrete. The Hudson will be handled.

J. P. Sink, Chicago, will build a one-story garage at 232 East 69th street at a cost of \$5,000.

The Graham Motor Car Co., Graham, N. C., has awarded the contract for a garage to cost \$3,000.

The Byerley Tire & Repair Co. has been formed in Kansas City, Mo., by C. T. Byerley, formerly of the Byerley-Hoole Tire & Repair Co., and Edward H. Mengel. The new company is located at 1906 Grand avenue.

Howard Chesley will open a supply and accessory store on West Third street, Kewanee, Ill.

The Loveland Co., Cleveland, O., Saxon distributor in northeastern Ohio, has opened a salesroom at East 17th street and Euclid avenue. The interior decorations are in white enamel. O. A. Schreiber is manager.

Joseph Salkowsky is building a new garage in Kewanee, Wis., to be 40 x 75 feet in size.

August Prange, Thomas Femmel and Frederick Voigt, until now associated with the Sheboygan Auto & Supply Co., Sheboygan, Wis., have organized the Prange Motor Co. and established a garage and machine shop at 1215 North Ninth street, Sheboygan. The new concern will represent the Chevrolet and Oldsmobile.

The Gradley Garage & Machine Shop, Oconto, Wis., is building a 40 x 60-foot addition for workrooms and repairshop. Harry Bradley is manager. The concern represents the Studebaker.

Smart Bros., Eagle, Wis., have purchased a site at the corner of Wisconsin and Park streets and will immediately erect a new garage and repairshop about 55 x 132 feet, one story high. The concern represents the Ford.

McCormick & Clanton have leased the garage building in Lancaster, Wis., recently vacated by Burrows & Winskill.

William Van Lieshout, Holland, Wis., has purchased a site on Law street,

Kaukauna, Wis., and will at once erect a new garage and repairshop costing about \$7,500 with equipment. He will continue his garage and agency business at Holland.

They will continue to make a feature of the repairshop and also install a complete line of accessories and take on agencies. The building is being remodeled.

P. O. Vivian has purchased the former Lanyon foundry and machine shop at Mineral Point, Wis., and will raze the buildings and erect a garage and repairshop.

Edward Chappell and Roy Haysmer, Grand Ledge, Mich., have opened a garage.

Sanders Bros. Tire Shop, Battle Creek, Mich., will handle Hood tires.

F. E. Hartshorn and E. B. Hoffman, who conducted a garage under the name of Hoffman & Hartshorn in Owosso, Mich., have dissolved partnership. Hartshorn will continue the business.

Bretzius Brothers, who recently sold their interest in the Crowthers Auto Sales Co., Coshocton, O., to A. L. Crowthers, have purchased the Norman Garage at Newcomerstown, O. Charles Wilcox will be placed in charge.

George F. McDonald, Columbus, O., has purchased the east branch of the Fourth-Chestnut Garage, located at 917 East Long street.

The Victor Motor Car Co., Cleveland, has been incorporated with a capital of \$12,000 to deal in motor cars. The incorporators are A. F. Read, C. M. White, V. C. Snyder, J. K. Lee and A. V. Curtiss.

The Xenia Garage Co., Xenia, O., has been incorporated with a capital of \$2,500 to operate a garage. The incorporators are J. B. Rice, Mrs. Frances Rice, C. W. Craig, M. J. Schmidt, Mrs. N. B. Schmidt.

The St. Clairsville Garage Co., St. Clairsville, O., has been incorporated with a capital of \$20,000 to operate a garage. The incorporators are John Anderson, E. A. Caldwell, Wm. M. Caldwell, Thos. J. McNamee and Otto Rothmeier.

The Pontiac Motor Car Co., Pontiac, Ill., has been compelled to enlarge its garage and this week closed a deal for the purchase of the building on East Prairie street previously occupied by the Modern Shoe Co. The new building will be utilized as a storage and assembling plant. The company handles Ford cars and has the Livingston county agency.

J. E. Seepe, Peru, Ill., has secured the agency for the Hudson car and has decided to erect a modern garage to be constructed wholly of steel and concrete on Fourth street. Ground was broken this week. It is planned to have the structure ready for occupancy December 1.

Harry Herrick, supply dealer in Champaign, Ill., has decided to erect a new and modern building. The basement will be devoted to a vulcanizing plant. The rear of the building will be devoted to garage purposes, providing for repairs and storage.

C. W. Adams, Cerro Gordo, Ill., has taken the agency for the Jeffery and Dodge cars.

Henry and John Strutzel, who have been operating a garage in Joliet, Ill., for a number of years, have decided to branch out and open a garage in Streator, Ill., Henry to take charge of the latter

branch. A building on Main street is being remodeled. The Ford agency for Streator will be controlled by the Strutzel brothers and they will carry a stock of accessories. The firm will be ready for business September 1.

Stephen Rigney and Robert A. Knipschild have formed a partnership and will shortly open a garage on Exchange street in Freeport, Ill. A building is being remodeled for their use and it will be ready September 15.

Henry Vanston, Byron, Ill., will open a new garage on September 1. He has just completed a new building of modern construction.

Firebaugh & Scott, of Ogden, Ill., now agent for the Overland, has purchased a lot and will erect a modern garage this fall. The structure will contain showrooms and space for a stock of accessories. A repair department will be operated.

J. E. Sommers, Washburn, Ill., purchased a lot this week and will shortly erect a modern two-story garage upon the site. It is planned to have the new plant ready for occupancy November 1.

PACIFIC COAST

The Foster-Larson Co. has been formed in Spokane, Wash., to handle the Paige. Foster is the proprietor of the Newton-Foster Co., Paige distributor in Seattle, and Larson has handled the Paige in Spokane since its introduction into that territory.

George K. March has been appointed Oldsmobile agent in Spokane, Wash., with territory north of the Snake river in eastern Washington and the northern half of Idaho. With his brother, F. M. March, he will organize a company which will be capitalized at \$25,000.

Harris & Hudson, Oakland, Cal., will build a one-story brick garage at a cost of \$5,000.

The Brewer Motor Car Co., Seattle, Wash., has moved into its new location at 1215 Riverside. D. D. Skinner, formerly of the Buick organization, has been appointed head salesman. The company handles the Jeffery.

George Haberfelde, proprietor of the Ford Garage at Bakersfield, Cal., has erected a large brick garage building on the State highway.

Hansel & Ortmann have made an extensive addition to their garage and service station at Stockton, Cal. Over 24,000 square feet of floor space are being utilized and the storing department accommodates 150 cars. The firm distributes the Cadillac and Overland cars in the San Joaquin Valley and surroundings.

C. Allen Test, formerly Ford representative in Bakersfield, Cal., has secured a direct Dodge agency for seven California counties. Service stations at Stockton and Modesto will be maintained.

Reilly & Valentine have taken possession of the new garage built especially for them in Sacramento and which will be known as the Lincoln Way Garage. This firm is handling the Chandler and a light electric.

Barsby & Neep Auto Supply Co., Seattle, has joined the "row," removing from the Henry building to 1833 Broadway.

Gerlinger Motor Car Co., Portland, Ore., opened a new home during the past week. The service department, manned by 20 mechanics, will be a feature.

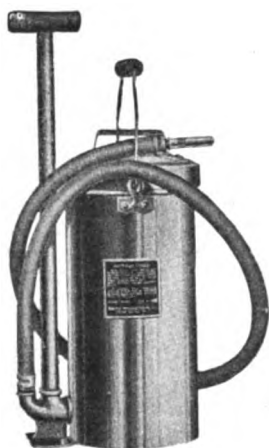


ACCESSORIES & SUPPLIES :

RUNYEN GREASE CABINET

Runyen Mfg. Co., Grand Rapids, Mich. PRICE, No. 1, 7½ pounds capacity, \$6; No. 2, 15 pounds, \$7; No. 3, 23 pounds, \$8.

Handles heavy oils and transmission greases, which are forced out through



Runyen grease cabinet with air-pump delivery

the nozzle by air pressure from a hand pump attached to the side of the container. Each full stroke of the pump pushes out ¼ pound of grease or oil, so that by counting the strokes the quantity used can be ascertained. A handle is provided for carrying; the hose is long enough to reach any part of the car where grease is needed.

TRIPLEXD GASOLINE HOSE

Metal Hose & Tubing Co., Raymond and Tillary streets, Brooklyn. PRICE, ¾-inch, 80 cents per foot; dealers, 58 cents. Couplings, \$1.50 per pair; dealers, \$1.20 per pair.

Triplexd hose is made in all sizes. The inner tube is of flexible metal construction, the second layer is of composition and the outer cover of loom woven jack-

eting. The makers state that it is more flexible than rubber-covered gasoline



Constructional details of Triplexd gasoline hose

hose. Special types are made for steam, oil and air.

BENN ENGINE-DRIVEN PUMP

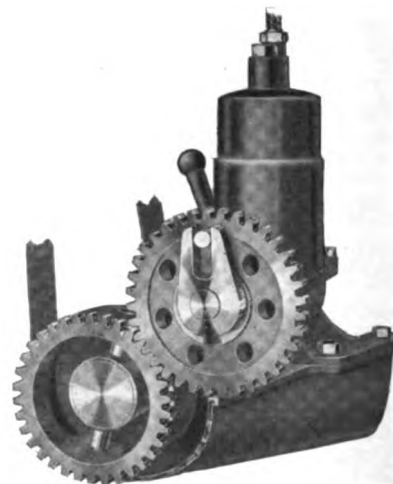
Benn Pump Works, 3 Tremont Row, Boston. PRICE, standard type, \$8; Ford type, \$7.

This is an all-metal pump with steel



Internal construction of Benn tire pump

crankshaft in one long bearing. The connecting rod is of bronze and cylinder and piston of gray iron. The pump is permanently attached, brackets and driving gears being provided to suit various motors. The makers state that the Ford pump will put from 45 to 60



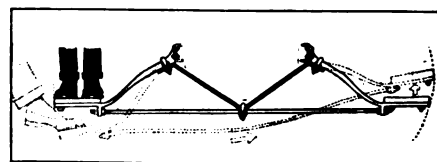
Benn engine-driven pump with gears and clutch

pounds pressure in a tire in one minute. The construction is exceedingly simple and compact. An asbestos oil separator is used and may be renewed.

RUNNING BOARD BRACE

Kansas City Automobile Supply Co., Kansas City, Mo. PRICE, \$2. DEALERS, 40 per cent.

By the use of the Casey brace the running boards of a Ford are prevented



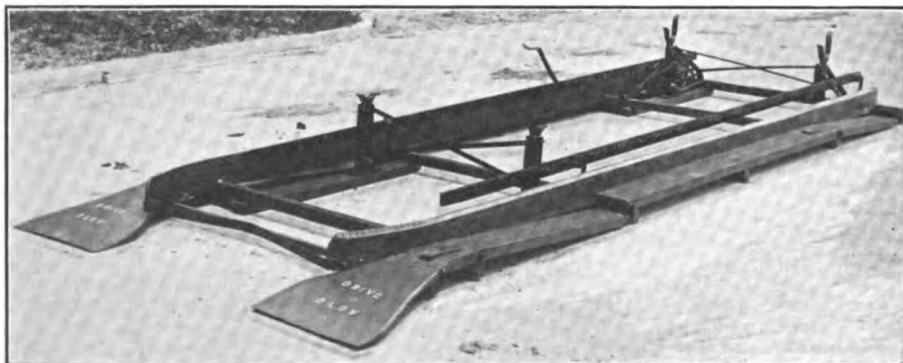
Casey running board brace

from sagging when heavy weight is placed on them. The brace forms a triangular suspension and prevents buckling of the cross rod that runs from one board to the other. It is easily applied without drilling or fitting and without special tools.

AUTOMATIC FOUR-WHEEL JACK

American Automatic Jack Co., Hicksville, O. PRICE, \$37.50. DEALERS, \$26.

All four wheels of the car are run up on runways which form part of the jack; the axles engage with four rubber-cushioned supporting heads and drop sections under the wheels are automatically lowered when the car reaches the proper position, leaving the tires an inch clear. To release the car a pedal is pressed, when the car moves backward off the jack.

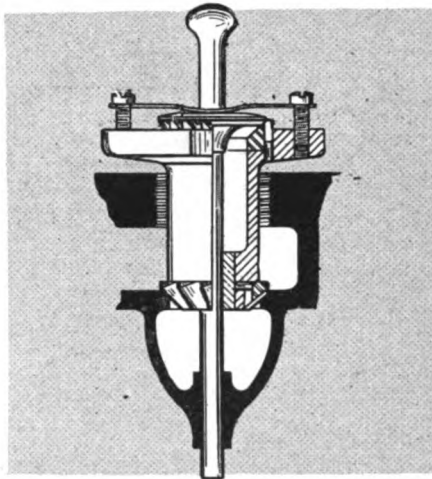


American automatic four-wheel jack, showing drop sections and rubber-cushioned heads

VALVE AND VALVE SEAT TOOL

Hughes, Bull Co. Engineers, 1038 Hancock avenue W., Detroit. PRICE, standard set, \$5.50; Ford set, \$5. DEALERS, 25 per cent.

Both valve and valve seat are trued at one operation. The tool is of the milling cutter type and is double, having at its lower end the seating tool and in its upper part a cutter for the valve itself. The tool is put in position in the valve chamber, the lower cutter resting on the seat, the valve is put in, the stem extending through the tool and down into the guide below and the tool is turned by means of the driver at the top.

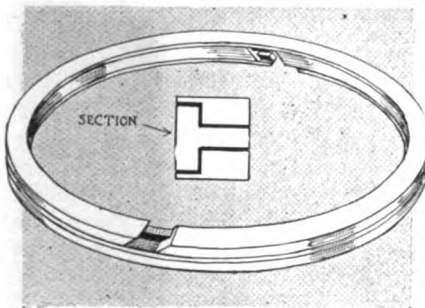


Hughes-Bull valve-and-seat finishing tool

TRUMP TRIPLE PISTON RING

Trump Mfg. Co., Crown Point, Ind. PRICE, all sizes, 75 cents each.

Made in three sections. The central section is of T-shaped cross section,



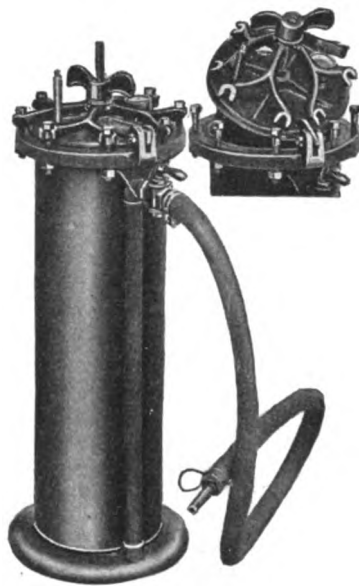
Trump piston ring complete and in section

having flanges which fit into recesses in the two outer sections. All are diagonally split and the joints are set at equal intervals. The sections are concentric. The ring may be applied complete or it may be put on one section at a time. The makers state that the interstices between the rings hold oil which forms a seal.

BOE TWO-WHEELED GUN

H. M. Boe & Co., Minneapolis. PRICE, \$35.

This new gun, which carries 25 pounds of grease and is operated by compressed air, is mounted on a two-wheeled truck. The grease is discharged through a faucet at the top which also forms a handle for wheeling the device. This gun is similar to the one recently brought out without the two-wheeled truck feature. It will discharge 10 pounds of grease per minute and requires only 40 pounds air pressure. There is a dial which measures to within $\frac{1}{8}$ pound.



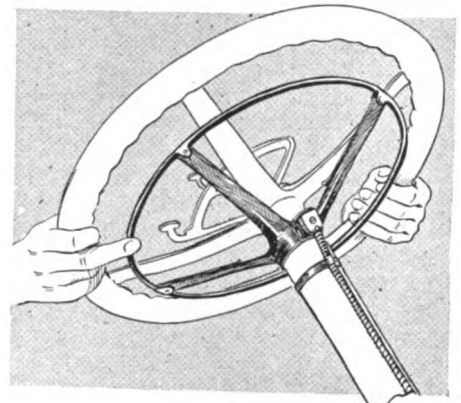
Boe garage grease gun, wheelless model

side and tail lamps; they can be attached by bending the original brackets. The set includes, in addition to the lamps, all wiring, connections, body bushings and switch on each lamp. Lenses are of the semaphore type. Bulbs are supplied for voltage as ordered. The set comes neatly boxed and ready for installation.

SENG CIRCULAR SWITCH

W. P. Seng, 1450 Dayton street, Chicago. PRICE, \$3; Ford type, \$2.50.

A ring, of smaller diameter than the steering wheel, is placed under the wheel; it is conveniently reached by the fingers. Pressure on it sounds the sig-



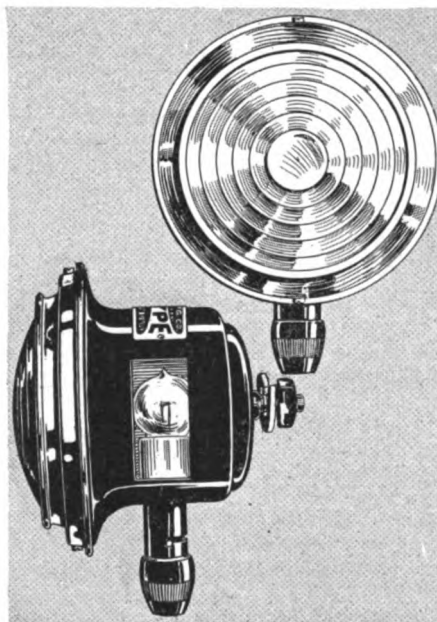
Seng ring-type steering wheel horn switch

nal; the pressure may be applied at any point, and the position of the steering wheel makes no difference.

WONDER-MIST CAR CLEANER

Wonder-Mist Co., 14 Federal street, Boston. PRICE, with sprayer, gallon, \$3; half gallon, \$2; quart, \$1.25.

By the Wonder-Mist system a car is washed without water and is cleaned and polished without building up any extra film over the varnish; the idea is that the best results can be obtained by restoring the original varnish surface. A liquid compounded of a number of oils containing no fats is sprayed over the body of the car by a sprayer consisting of a hand pump with a magazine containing the oil; a little extra is sprayed where there are mud deposits, which are immediately softened. The car is then wiped off, removing the dirt, with cheese-cloth, and finally polished with a dry cheese-cloth; the makers state that the work can be done in half an hour. Scratching is prevented by the film of oil. A quart of oil is said to be sufficient for a dozen large cars. The oil is non-inflammable, is not poisonous and has an agreeable odor.



Newtype electric lamp for Ford cars

NEWTYPE ELECTRIC LAMPS

The Wood Mfg. Co., Fairfield, Conn. PRICE, \$5 per set.

This is a set of lamps designed to take the places of the standard Ford

Old felt washers, if they are not too badly worn, may be rejuvenated by soaking in gasoline.

Dealer's Legal Status

Parts Consigned to a Dealer Do Not Become an Asset of His In the Event of Bankruptcy Proceedings Against Him—Always Property of Consignor

By George F. Kaiser

Editor Motor World:

At the recent service managers' convention, held by the National Automobile Chamber of Commerce in Detroit, the subject came up of consigned parts stocks, and it was announced that the parts consigned to the dealer become an asset to the dealer in the event of his going into bankruptcy.

Will you kindly advise in which states this law has been enacted and if the consignor has not a perfect title to the parts, if the contract so states, that they remain the property of the consignor in case of insolvency?

Toledo, O.

G. M. T. C.

Conditional Sale Makes Difference

Where there is a true "consignment for sale," parts stock or other materials consigned to the dealer do not become assets of his in the event that he becomes bankrupt.

If, instead of a consignment for sale, there is an absolute sale, or a conditional sale, the rule of law is different and the trustee in bankruptcy is justified in considering the parts stock, or other materials, as part of the dealer's assets.

In numerous cases, manufacturers' contracts have really been in effect bills of sale, or conditional bills of sale, in which cases title in the property passed to the dealer, while the manufacturers believed they had reserved title in themselves by a notation to that effect on the contract.

The courts of several states have uniformly held that attempts of this kind are futile and that a manufacturer in order to recover back his parts stock, etc., when a dealer becomes bankrupt must do certain things and forbear doing certain others.

Maker Failed to Recover

The case of *Flanders Motor Co. vs. Reed*, decided in 220 Federal Reporter, page 642, is a good illustration of an unsuccessful attempt on the part of a manufacturer to recover parts stock from a trustee in bankruptcy.

By a contract between the manufacturer and the dealer, the manufacturer agreed to sell automobiles to the dealer at specified discounts from list prices

for re-sale in certain territory. The contract also provided that on orders for automobile parts the dealer should be allowed a specified discount from list price and that title to each automobile and all parts should not pass to the dealer until paid for.

Did Not Keep Parts Separate

There was no provision requiring the dealer to keep such parts distinct from other goods, or to keep the proceeds in case of sale separate, and the dealer sold and delivered parts for which payment had not been made as if they were his own in the ordinary course of his business and without keeping the proceeds separate from other moneys.

The manufacturer knew and recognized what was being done in this respect without objection.

The court held that there was no bona fide reservation of title, but only a pretended reservation as a safeguard in case of need, but not otherwise to govern the rights of the parties or the course of dealings, and hence the manufacturer was not entitled to retake parts in the possession of the dealer when he became bankrupt from his trustee in bankruptcy.

A consignment for sale is simply a bailment—a temporary placing of goods in the possession of another with the understanding that the latter shall sell the goods, or as much of the goods as possible, as the agent of the owner, and be prepared to return those goods unsold, together with the amounts received for the goods sold less his agreed commissions and expenses.

Goods Always Property of Maker

The goods always remain the property of the manufacturer in a case like this, and the dealer is not obliged to keep and pay for them, as he would be if it were a case of bargain and sale.

A case illustrating this point is the case of *in re Flanders*, reported in 134 Federal Reporter (Illinois), page 560, and where the court held that where a claimant shipped leather to a bankrupt under an agreement that he should sell it on commission, after making advances to the extent of 50 per cent on the invoice value, and account for the proceeds

of sales, less a commission of 5 per cent, freight charges and advances, and guarantee such sales, the claimant being entitled to a return of the goods on demand, the transaction constituted a bailment and not a conditional sale, though the bankrupt selected his own purchases, insured the goods in his own name, and fixed credits to be allowed, etc.

Whether or not part stocks will be assets of a dealer in case of his bankruptcy depends on the contract in each particular case, and if the transaction is in reality a sale, though this fact is attempted to be concealed, the parts stocks will be considered as part of the assets.

CONTRACT CONDITIONAL SALE U. S. DISTRICT COURT RULES

The United States District Court in Oregon recently decided that a contract was not a "consignment for sale," but a conditional sale.

Goods were consigned to a dealer under a contract by which he was to pay the freight, insure and store the goods and be responsible for all damages while they were in his possession and sell the goods as fast as possible for cash or on six months time on notes which he was to guarantee. He was to receive a commission, the amount of which was not specified.

The court held that this contract was a contract of conditional sale, and if the dealer became bankrupt the manufacturer could not recover the goods which were in the dealer's possession.

This is a question of some importance, as frequently contracts are drawn up between manufacturers and dealers along the same lines, and it is often a close question whether the manufacturer is entitled to get back his parts stock if the dealer becomes bankrupt. (*In re Rochlich*, 223 Federal Reporter, 687.)

CALIFORNIA COURT UPHOLDS CITY JITNEY ORDINANCE

Another court ruling regarding the right of a city to regulate jitney buses was recently handed down by the Supreme Court of California. It was held that a municipal ordinance requiring a permit and bond and the payment of a license fee was not void because it classified automobiles according to the amount of fare they charged, and further, that a provision that it was unlawful to operate a jitney bus unless the party has 30 days experience driving a motor car in the city was not unreasonable. (*Ex parte Cardinal*, 150 Pacific, 348.)

Partners Equally Liable in Accident

The Supreme Court of South Dakota, in a late case, held that where two men are co-partners and are riding in an automobile on partnership business, they are jointly liable for any injuries suffered by a third person caused by negligence of the partner driving the car.

Association News

MEMBERS STUDY CREDITS

KANSAS CITY, MO., September 7—The Kansas City Automobile Tire and Accessory Dealers Association, organized six months ago, has been working conservatively and carefully towards definite objects and has been making good progress against a very confused situation. There are now 75 members. Weekly meetings of the directors are held on Tuesdays at luncheon in the center of the South Side automobile district. There are business meetings of the members the second Tuesday of the month and an event planned by the entertainment committee the last Tuesday.

The primary purpose of the officers was to get the garage and retail supply men together socially, that they might become better acquainted and so get into the spirit of cooperation. This has been largely accomplished, and now the business objects will be attacked. First of these is the establishment of a credit interchange system, already under way. To further its interests a change was made recently, S. P. Forsee, Jr., an attorney, being made secretary, with especial duties connected with the credit exchange. C. J. Conners continues as treasurer. Forsee will devote much of his time to organization work, to keeping dues collected, the members interested, and the credit exchange advancing. So far the members have been slow to report on bad accounts, but the office is accumulating much useful data. The members are becoming more accustomed also to seeking help from the exchange. For the present there will be no effort to establish a cash basis, or even a 60-day standard. Ultimately a 30-day standard may be set on credits, although the possibility of making cash payments effective on garage bills is not considered.

Pertinent facts referring to credit business were given at a meeting a few weeks ago by A. Francis, a garage man, one of the directors of the association, which caused considerable deep thinking.

It is likely that the association will go rather fully into the question of cost systems. "It's easy enough to figure what space in a garage is worth," said one member. "If you are paying \$75 a month for the property, and that figures down to 60 cents for floor space 16 x 8, you are losing money every night you let that space for 25 cents, or every 24 hours your space goes for 50 cents. What's the use of paying rent and giving away the space? The same careless figuring occurs in reference to labor costs in the shop. If you pay 42 cents and charge 50 cents you are getting only 8 cents for overhead, only 8 cents leeway

on idle time. I'll venture many charge less than actual labor cost. There's the same situation as to supplies. There's no profit in selling a 46-cent article on a 4-cent margin. And what if the man who happened to get a bargain, and sells the 46-cent article at 35 cents? He is demoralizing the business for others, and chiefly for himself—for he'll have to pay 46 cents next time, though the customer has grown accustomed to 35 cents as the retail price." Ultimately the question of relations between jobbers and retailers may be taken up.

MILWAUKEE FALL SHOW

MILWAUKEE, September 7—The Milwaukee Automobile Dealers, Inc., is spending nearly \$6,000 in rebuilding Machinery hall at State Fair park to make it an exposition palace for the first annual fall show, September 13 to 17. In addition, about \$5,000 will be spent for decorations and lighting effects. Machinery hall was built as a great, gaunt structure of concrete, without side walls, and designed for agricultural machinery and motor car exhibits indiscriminately. The M. A. D., however, plans to make the fall show of as much importance as the annual winter show in the Milwaukee Auditorium each January and is transforming the structure into an enclosed auditorium. Space has already been sold to 40 dealers and at least 50 are expected to sign before the lists close. These 50 will represent about 80 different makes of cars.

ROCKFORD RELIABILITY RUN

ROCKFORD, ILL., September 3—The Motor Car Dealers Association of Rockford is at present devoting considerable attention to the promotion of a fall reliability run to be held September 20 and 21 over roads tributary to the Rockford dealers' territory. The association will hold a fall show in a tent, September 22 to 25, inclusive. The association has voted to go on record as being in favor of manufacturers bringing out and announcing all new models not earlier than January 1 of each year.

BOSTON FAVORS FAIRS

BOSTON, September 6—The Boston Automobile Dealers Association has approved plans made by the managers of the two big fairs in New England, the Brockton fair in October and the Rockingham Park fair the latter part of September, to hold open air motor shows. A number of the Boston dealers plan to exhibit their 1916 models in both shows and large sections of space have been set aside for the purpose where the cars

will be housed in tents. At the Marshfield fair last week there was a motor show and is proved very profitable for the motor exhibitors. The Jeffery dealer drove up in a runabout to exhibit it and he sold it before he could drive it to the space.

RHODE ISLAND'S OUTING

The annual outing of the Rhode Island Automobile Dealers Association was held last week at the Pomham Club, located at one of the beach resorts. There were about 100 members and guests present, some of the latter motoring from Boston, Taunton, Attleboro and other places. There was a motor parade with about 25 cars in line starting away. There was a series of athletic sports followed by a dinner and cabaret show.

GRAND RAPIDS SHOW

GRAND RAPIDS, September 2—At a meeting of the Automobile Business Association it was decided that the seventh annual Western Michigan show be held during the winter probably in February. A show committee was appointed and consists of Ray L. Becker, Ford; L. E. Colgrove, Hudson; W. L. Peiter, Overland; F. H. Peck, Studebaker, for the automobile dealers; J. T. Bruce, Miller Tire agency, for the accessory men, and Secretary Ernest Conlon, of the Association.

ROCKFORD FALL SHOW

ROCKFORD, ILL., September 7—The Rockford Automobile Club will hold a fall show. The club has rented a tent and will house the exhibits under this shelter. The date chosen is September 22 to 25. The executive committee in charge comprises J. S. Joslyn, W. B. Taylor and W. H. Williamson. A large number of entries have already been received, all of the Rockford dealers agreeing to participate.

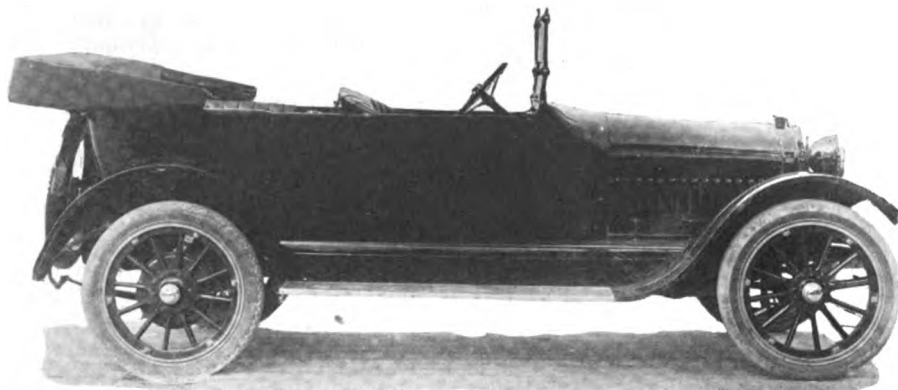
Boston Dealers Fight Taxation

BOSTON, September 4—That the motor manufacturers and dealers will have another fight on their hands when the legislature meets next January is foreshadowed by the results of the meeting this week of the special commission appointed by the last legislature to devise ways and means to increase the state revenues. The commission devoted one forenoon to the problem of motor vehicles. Frederick T. Fuller, a member of the commission, stated that in his opinion all motor cars of 60 or more horsepower should pay at least \$100 and that other cars should be made to pay a proportionate part.

Frank D. Kemp did not advocate an increase on passenger cars, but did favor increasing the fees on trucks to \$1 per horsepower instead of the present tonnage rate.

Glide Concentrates on \$1095 Six

Entirely New Model Takes Place of Previous Four—Standard Units Used Throughout Chassis



The new Glide six body has a yacht-like sweep from headlamps to the rear; upholstery is enameled leather over curled hair

THE policy of the Bartholomew Co., Peoria, Ill., manufacturers of the Glide, will be to build a single model, as in 1915, but that model will be a six instead of a four. A five-passenger body is mounted and the car sells for \$1,095. A sedan top can be supplied at an extra cost, giving an all-year car. The sedan top is constructed with a frame of hard wood well ironed and braced. It is upholstered in Bedford cord and has double strength glass in doors and windows. There is an electric dome light in the top. This body can be removed or attached by two men in an hour. The touring body has a yacht-like sweep from the headlights to the rear. The upholstery is enameled leather over curled hair and oil-tempered springs.

The Rutenber motor has six block-cast L-head cylinders and a horsepower of 41 is claimed at 2,000 r. p. m. The

GLIDE SPECIFICATIONS

Price, touring.....	\$1,095
Make of motor.....	Rutenber
Number of cylinders.....	Six
Shape	L-head
How cast.....	Block
Bore	3
Stroke	5
S. A. E. rating.....	21.6
Ignition	Westinghouse
Starting-lighting	Westinghouse
Clutch	Multiple disk
Gearset	3-speed
Wheelbase	119
Tires	34 x 4
Wheels	Wood
Steering	Left
Control	Center
Rear axle....	Floating, spiral bevel

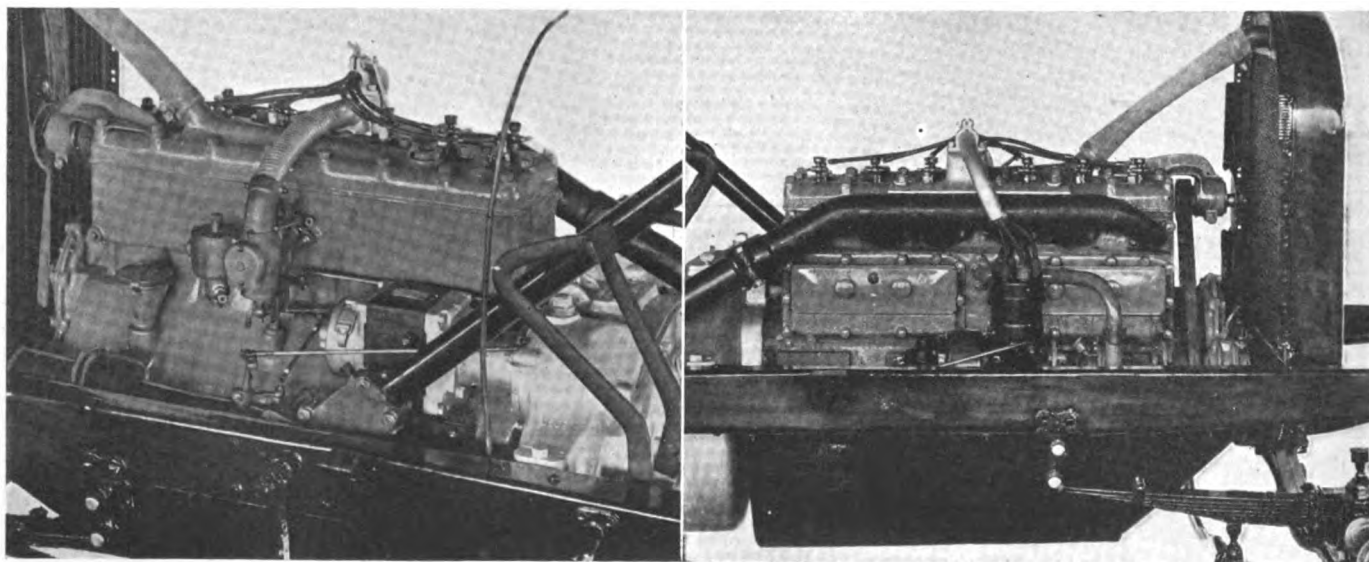
speed is moderately high, and to take advantage of this the motor is designed to run on a direct ratio of 4.64 to 1. Water is circulated by a centrifugal water pump and cooling is by a two-blade aeroplane fan which is mounted on a bracket extended from the cylinder head casting.

For lubrication there is a vane pump driven directly from the front end of the camshaft and delivering oil to troughs under the connecting rods and to the timing gears. For the main bearings there are oil ducts cast in the walls of the upper case. A large filler opening is supplied on the left side of the motor at the front end and there is an oil gauge just back of the filler opening.

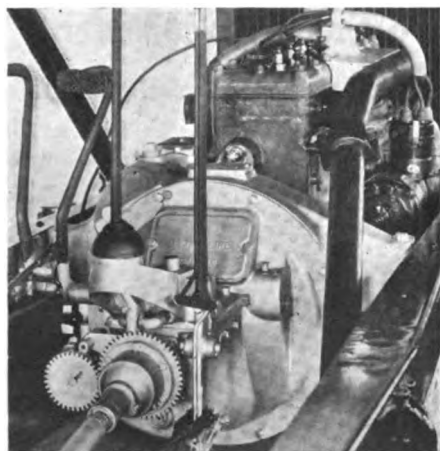
The electrical equipment is entirely Westinghouse. The motor is on the left side of the engine and bolted to a flange which forms an integral part of the fly-wheel housing. The driving pinion is thrown into mesh by the Bendix gear. The generator is on the right side just back of the water pump and is driven by the same shaft which operates this pump, although it is separated from the pump drive by a leather coupling. A voltage regulator is used in connection with the generator, which delivers a tapering charge to the battery. The charging is at a fairly high rate when the battery is exhausted but slower when the battery is nearly charged.

Westinghouse vertical ignition is employed, the timer-distributor unit being mounted on the front end of the generator and driven by spiral gears running in oil. The 6-volt battery has a capacity of 80 ampere hours.

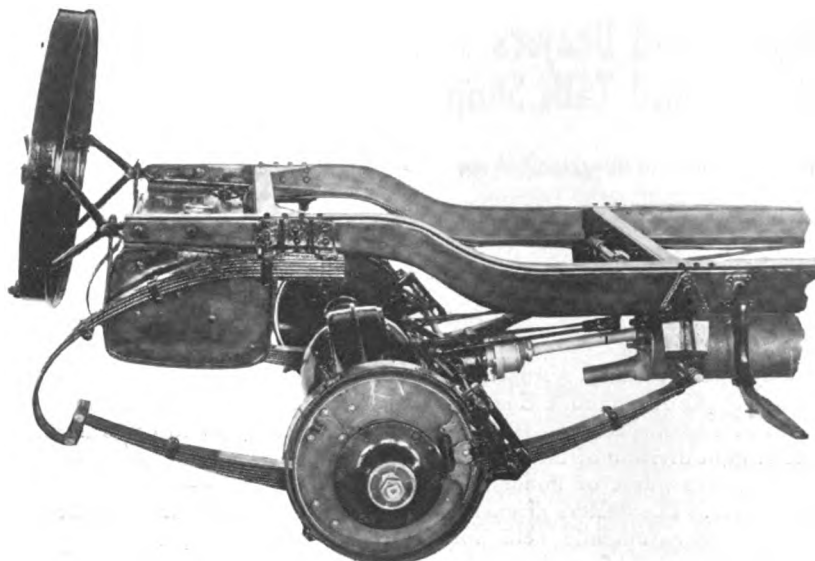
Power is transmitted from the motor to the gearset by a multiple disk clutch of the dry type. There are 13 disks, alternate disks being faced with Raybestos. The aim of this clutch has been to keep the surface large and the unit pressure small, thereby reducing wear on the facing. The gearset is mounted in a bell



The Rutenber motor used in the Glide is of the detachable head type, thus facilitating maintenance; carburetor and starting motor are at one side with the generator and ignition distributor on the opposite side



The 3-speed gearset is mounted as a unit with the motor, in a bell housing back of the clutch and flywheel



Rear springs are underslung and are constructed to take both torque and drive. Driving gears are mounted in a cast steel carrier and enclosed in a pressed steel housing

housing back of the flywheel case. Drive is taken through a tubular propeller shaft and Spicer universals. The front universal is so arranged as to allow for a slight longitudinal movement of the rear axle and to take care of this there are 10 splines on the forward end of the tubular propeller shaft.

Both torque and drive are taken through the rear springs, which are underslung. The rear axle is floating, with pressed steel housing. The driving gears are mounted in a cast steel carrier designed to hold the gears in alignment. Accessibility is a feature of the rear axle, the entire differential being capable of removal through the hand hole after removing the cover plate. The driving gears are spiral bevels. Both sets of brakes are on the rear axle; the drums are 14 x 2, with the foot service brake external contracting and the hand brake

internal expanding. The drums are bolted to the rear wheels, which are carried on Gurney bearings.

All the steering connections are large; the tie rod is mounted behind the axle and the wheels are arranged to secure a castor effect. Long springs are used, the front being 34 x 2 and the rear three-quarter elliptic 48 x 2, underslung. Screw and nut steering is used, with an 18-inch wheel.

Gasoline feed is by the Stewart-Warner vacuum system, the wheels are provided with Goodyear demountable rims, the top is a one-man design with Jiffy curtains, the headlights have a double bulb arrangement for dimming, and the instrument board is fully equipped with a Stewart-Warner magnetic speedometer

driven from the propeller shaft, ammeter, dash lamp, and so on.

Many Changes in Studebaker

DETROIT, Sept. 7—R. T. Hodgkins, who was assistant sales manager of the Studebaker Corp., has been appointed sales manager, succeeding L. J. Ollier, who was made a vice-president and director some time ago. George L. Willman, advertising manager, and William T. Bush, manager of the Detroit branch, have been appointed assistant sales managers. Willman will continue to have charge of the advertising department. He will look after the sales end in the territory west of Detroit to the Pacific Coast, while Bush will supervise the territory east of Detroit.

What Is the Best Month in Which to Hold the Local Show?

If You Have Not Yet Voted, Mark the Ballot Herewith and Return it by Next Mail

THE VOTE TO DATE

JANUARY	37
FEBRUARY	21
MARCH	13
SEPTEMBER	7
OCTOBER	12
DECEMBER	3
NOVEMBER	5
JAN.-FEB.	2
FEB.-MAR.	1
<hr/>	
TOTAL	101

You

have not voted yet. Motor World wants your vote on this question. With your vote send a letter setting forth your reasons for choosing the particular month you favor.

Remember

This is a vote for the month in which to hold your LOCAL SHOW—not the National events in New York and Chicago.

Vote Here—Tear Out Mail

Motor World, 1915
239 West 39th St., New York
I am in favor of holding the annual show in the month checked.

<input type="checkbox"/>	SEPTEMBER	<input type="checkbox"/>	JANUARY
<input type="checkbox"/>	OCTOBER	<input type="checkbox"/>	FEBRUARY
<input type="checkbox"/>	NOVEMBER	<input type="checkbox"/>	MARCH
<input type="checkbox"/>	DECEMBER	<input type="checkbox"/>	APRIL

Signed

Position

Company

Address

Texas Overland Dealers Gather and Talk Shop

Representatives of the Overland Automobile Co. of Dallas, 70 Strong, Entertained at Country Club
—John F. Toole Talks

DALLAS, September 7 — Seventy dealers were entertained Tuesday night in Dallas by the Overland Automobile Co. of Dallas at the Automobile Country Club. John F. Toole, special representative of the Knight division of the Willys-Overland Co., was guest of honor and principal speaker. The dealers discussed optimistically the automobile field and conditions in general. After dinner the party met at the Overland company's headquarters in Dallas and discussed the business in different phases. Those present at the reception were:

Sidney Hall, Sherman; R. P. Blanding, Corsicana; J. F. Oates, Waco; John Gaide, Ennis; James Kirk, Grand Saline; T. E. Goodrich, Marlin; B. F. Paine, Toledo, O.; Walter Stoker, Decatur; H. F. Ross, Toledo, O.; W. E. Ross, Toledo, O.; Percy Wills, Waco; L. J. Adams, Toledo, O.; J. C. Bass, Cleburne; W. A. Helm, Decatur; Eaton Noble, San Saba; M. W. Carroll, Marlin; W. H. Sims, McKinney; L. F. Barnhardt, Palmer; Tom C. Parks, Clifton; Emil Lee, Clifton; Horace Marshall, Durant, Oklahoma; Wallace Hughston and O. A. Brannon, McKinney; J. G. Kessinger, McKinney; H. R. Davidson, Celina; W. B. Blackburn, Decatur; O. G. Emery, Lewisville; William Whyburn, Lewisville; J. C. Ratcliff, Lewisville; Brandon Trussell, Decatur; Boyce Morgan, Waco; Lem Braley, W. W. Taxis, C. R. Nochtel, Dan F. Safford, J. S. Graham, A. A. Counselman, Douglass Bodenhamer, Roy C. Wells, R. B. Parker, C. B. Curlee, J. B. Frey, E. G. Rusk, S. G. Hawkins, J. H. Marshall, P. K. Manning, E. S. Fortner, J. W. Bourland, Billie Blythe, H. B. Samuells, L. C. Snowden, J. W. West, M. T. Mathis, V. J. Beamon, R. W. McEwan, W. E. Williams, J. A. Iles, F. F. Worth, Dallas; R. B. Culppepper, Dalworth, Ill.; J. J. Rhodes, Willis Point; Walter Roach, Temple; R. H. Crofton, Fort Worth; B. F. Crofton, Fort Worth; H. F. Fellows, Fort Worth, and Archer Castle, Sherman.

Hupmobile District Managers Meet

DETROIT, September 3 — District sales managers to the number of 25 met at a convention at the Hupp Motor Car Co. from Tuesday, August 31 to date. General matters concerning the Hupp business were discussed. Thursday night a dinner was given to the visitors at the Detroit Athletic Club, which was also attended by President J. Walter Drake and many other officials of the company.

S. O. Advances Gasoline Price

BAYONNE, N. Y., August 27 — The price of gasoline in this city, where much of the supply is made by the Standard Oil Co., was raised 1 cent a gallon to dealers yesterday, and they in turn increased the price to customers. The price is now 14 cents a gallon, an in-

crease of 3 cents within a month. It was said yesterday that there may be an increase in the prices of other oil products.

Local dealers are disposing of Gulf gasoline at 13 cents. Further advances have recently been announced in some of the southern states. In Alabama the price has been advanced 1 cent a gallon and in North Carolina 1 cent a gallon to 16 cents. At most Georgia points the price has been raised a cent a gallon to 16 cents, but in Atlanta the quotation has been advanced 1½ cents to 14 cents. In Virginia an increase of 1 cent, bringing the price up to 13 cents a gallon, is announced.

Another Advance for N. Y. Gasoline

NEW YORK, September 3 — Garages have announced another advance of 1 cent a gallon in gasoline, to 18 cents. Early last month the price was advanced from 16 to 17 cents.

Gas Up 1 Cent in Denver

DENVER, September 4 — The price of gasoline was put up 1 cent last week, most of the filling stations now getting 14 cents at retail. Some of the garages are getting more.

C. W. LOWRIE, OF DETROIT, WINS OLDSMOBILE CONTEST

LANSING, August 26 — The branch salesmen's contest conducted by the Olds Motor Works ended August 15, with R. C. Lowrie, of the Detroit branch, the winner. W. B. Danenhower, of the Philadelphia branch, was second, and J. H. East, also of Detroit, third. The contest was conducted only among the retail salesmen in the employ of the Oldsmobile branches and there were 30 contestants. The first prize was a Gruen watch, in the back of which Mr. Lowrie's name and the record of his achievement were engraved. The second prize was also a watch. To the third prize winner went a solid gold handled penknife. Lowrie had a score of 820 points, which gave him a safe margin over his nearest rival. To win he had to sell the equivalent of 32 four-cylinder model 43 Oldsmobiles.

The finishing scores showed that in addition to East, F. H. Groesbeck, of the Detroit branch, and F. G. Motz, Buffalo, were hard fighters for third honors. The following men, while they did not win prizes, were among the top notchers: F. G. Motz, Buffalo, fourth; F. H. Groesbeck, Detroit, fifth; G. B. Levy, Chicago, sixth; B. H. Rogers, San Francisco, seventh; G. H. Goldstein, Philadelphia, eighth; R. J. Skilton, Philadelphia, ninth; E. A. Maginnis, Los Angeles, tenth; B. C. Madden, San Francisco, eleventh; W. G. Marten, Chicago, twelfth; H. S. Smith, Buffalo, thirteenth; E. B. Doernbach, Philadelphia, fourteenth.

Two New Federal Models Announced at Convention

Dealers and Distributors Told of New Light and Heavy Vehicles Soon to Be Added — Federal May Make Its Own Motors

DETROIT, September 4 — The annual convention of Federal Motor Truck Co.'s dealers and distributors was held this week. The announcement was made that the Federal company intends to bring out a new light truck, also a heavy 6-ton model. It was also stated that in the near future the Federal company may start and make its own motors. In fact, tests and experiments are now being made with new designs to that effect. Although an addition to the plant has been just completed, the concern has purchased five acres of land adjoining the plant and will start shortly the erection of additional factory buildings.

A strong advertising campaign has been promised by the dealers. Advertising Manager H. P. Sigwalt outlined a program to that effect and there will be closer cooperation between the company and the agents on that line. The fact was brought out that one of the best advertising mediums is bill posting and that many trucks were sold on this account.

Among those dealers and distributors who attended the convention were the following:

H. S. Grinnett, Auto Machine Shop, Caldwell, Idaho; E. E. Gerlinger and R. L. Sanders, Gerlinger Motor Car Co., Portland; A. Goyert, Rapid Garage & Auto Co., Greenburg, Ind.; R. H. Hart, Hart's Garage, Chattanooga; Geo. J. Bock, Cohocton, O.; M. Cautlon, of C. E. Lyall, Peoria; F. G. Kleyn, Kleyn Apto Co., Duluth; A. Youngs, Youngs & Co., Newburgh, N. Y.; Allen Baker, Federal Truck Co., St. Louis; A. B. Coates, Coates Motor Co., Columbus, O.; L. E. Huddle and Leroy Dobbys, Lancaster, O.; L. Schupp, Sr., and Jr., and F. Waterbury, Schupp & Sons, Albany, N. Y.; J. A. Cramer and Geo. Cramer, of J. A. Cramer, Buffalo; H. S. Dunlavy, Federal Motor Truck Co., Chicago; A. B. Ijams, Commercial Motor Co., Baltimore; J. G. Wardell and J. S. Barger, Wardell & Barger, St. Paul; A. M. Lowentritt, Oil City, Pa.; H. G. Hawkins and T. S. Lane, Hawkins-Twitchell Co., Spokane, Wash.; M. Marx and M. Pauly, Chase Motor Truck & Service Co., Milwaukee; B. H. Smith, Federal Sales Co., Indianapolis; G. J. Grommett, Southwestern Auto Sales Co., El Paso; G. B. Chapman, Vulcan Motor Truck & Service Co., Pittsburgh; M. Bloch, Bloch Bros., Mobile, Ala.; J. V. Shugart and M. Leab, J. V. Shugart & Son, Marion, Ind.; Lee Richardson, Lee Richardson & Co., Vicksburg, Miss.; E. F. Stenerson, Charlotte Motor Car Co., Charlotte, N. C.; W. F. Smith, Automobile & Supply Co., Toronto, Can.; W. G. Fastz and Geo. C. Kloss, Binghamton Motor Car Co., Binghamton, N. Y.; R. M. Sauers, James W. Barry and H. R. Sackett, Sauer's Motor Truck Agency, Springfield, Mass.; J. L. Carpenter, Bridgeport, Conn.; M. T. Kennett and A. F. Maiden, Cincinnati Motor Co., Cincinnati; M. Brannon, Hermitage Hardware Co., Nashville, Tenn.; M. Peiter and M. Friday,

Grand Rapids Overland Co., Grand Rapids, Mich.; three representatives from the Federal Sales Co., Rochester, N. Y.; two from the Heebner-Felver Motor Sales Co., Lansdale, Pa.; one from the Pacific Kissel branch, San Francisco.

Johns-Manville Now in Chicago

MILWAUKEE, September 7—The H. W. Johns-Manville Co. today moves its general offices from Milwaukee to Chicago because of the large growth of its business in the middle west, which requires administrative facilities such as Chicago only can afford. The company operates two large works in Milwaukee and the change will not affect these operations. Thomas Tileston Lyman, general manager, goes to Chicago and the Milwaukee plants will temporarily be in charge of President C. B. Manville.

Signal Truck Reduces Prices

DETROIT, September 3—Beginning September 15 the price of three of the four models of trucks made by the Signal Motor Truck Co. will be raised. The prices will be as follows: 1-ton model, \$1,550, instead of \$1,500; 1½-ton model, \$1,750, instead of \$1,700; 2-ton model, \$2,100, instead of \$2,000. The price of the 3½-ton remains \$3,000. All models are worm-driven. At the new prices the ton and the 1½-ton models will be furnished either with a 120- or 144-inch wheelbase. Heretofore it cost \$50 more for the latter sized model. The 2-ton model is only made with a 150-inch wheelbase and the 3½-ton model has a wheelbase of 168 inches.

Norma Prizes For Sheephead

NEW YORK, September 3—The Norma Co. of America will offer two special prizes for the Astor Cup Race on the Sheephead Bay Speedway, October 2. A purse of \$100 will go to the winner and \$50 to the driver making the fastest lap during the race, provided their cars carry ignition apparatus equipped with Norma ball bearings. The company has also offered a silver plaque to the winner in the class of decorated gasoline roadsters in the parade preceding practice, September 18.

Detroit Steel Products Adds

DETROIT, September 7—The Detroit Steel Products Co. will erect a new building which will add approximately 15,000 square feet to the present floor space. Work will start as soon as all the details of the plans are completed. This will be the third addition made to this department of the factory within a year.

Pennsylvania Tire Prices Reduced

NEW YORK, September 3—The Pennsylvania Rubber Co. has reduced the prices of its smaller sized vacuum cup tires. The following list gives a few of the new prices: 28 x 3, \$12.65; 28 x 3½, \$15.40; 30 x 3½, \$16.20; 30 x 4, \$19.55, and 31 x 3½, \$16.90.

\$7.50 Motor-driven Horn Latest Stewart Product

Self-contained Motor Unit Has Big Bearings and Brushes—Friction Eliminated—Button Extra Large

A motor-driven horn that sells for \$7.50 marks the entry of the Stewart-Warner Speedometer Corp., Chicago, into the motor-driven horn field. Outwardly the instrument is of conventional form, but interiorly it is out of the ordinary. Chief among the features is the construction of the electric motor, which is a complete, self-contained unit with its own casing; assembled, it is slipped into the cylindrical housing at the rear of the horn. The bearings are bronze bushings, the bearing at the working end being especially long; at the other end is a single ball thrust. A ball oiler provides for ample lubrication. A toothed stud C acts on a button B at the center of the diaphragm, and is adjustable from the front of the diaphragm by means of a special tool which does the work without the removal of the projector. The motor construction provides correct and permanent alignment and shaft adjustment is unnecessary. All windings are protected by baked-on insulation and are unaffected by moisture; brushes are large and self-feeding.

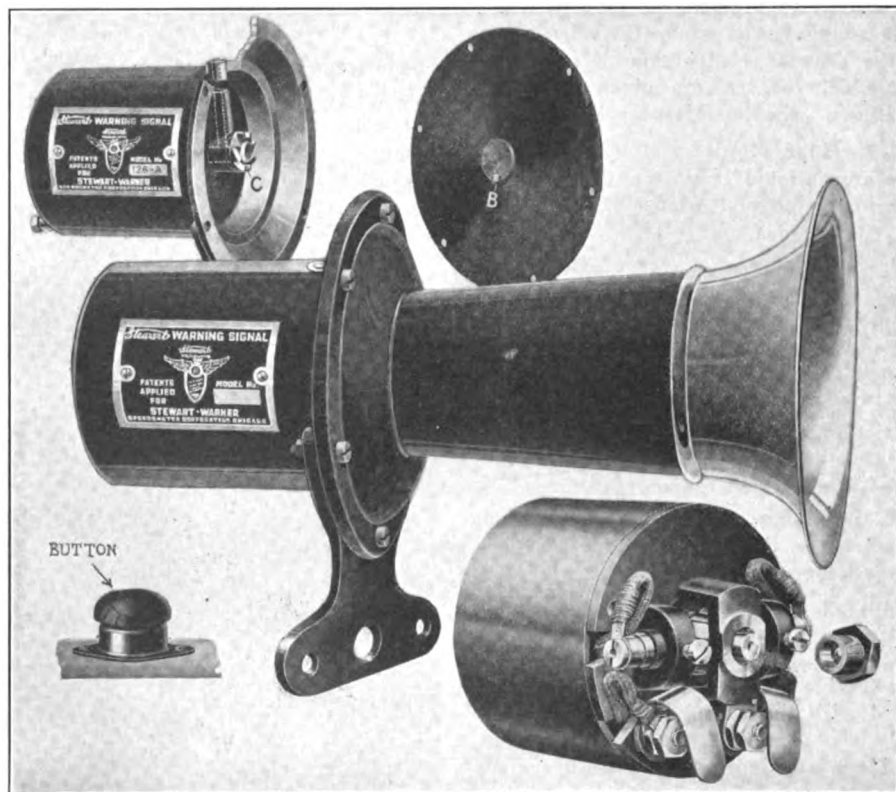
The button furnished with the horn is as good in its way as the horn itself. It has a big, mushroom head—in fact, it is mostly head.

Perpetual Injunction for Perlman

NEW YORK, September 4—Following the opinion of Judge Hunt in the case of Louis H. Perlman against the Standard Welding Co., reported in Motor World August 25, an interlocutory degree has been issued in favor of Perlman, perpetually enjoining the Standard Welding Co. from further infringement of his patent No. 1,052,270 on rim construction and appointing Clarence S. Houghton, of this city, a special master to determine the amount of damages. Costs of the suit are to be paid by the Standard Welding Co. The decree upholds the validity of the patent and rules that Perlman's exclusive rights thereunder were violated.

Hyatt Bearing Longevity Contest

DETROIT, September 3—The Hyatt Roller Bearing Co. has made public the details of a contest to determine the greatest mileage that has been obtained with cars on their original equipment of Hyatt bearings. Cash prizes totaling \$1,000 will be awarded to owners, the distribution being as follows: First, \$500; second, \$200; third, \$100; fourth, \$50; fifth, \$30; sixth, \$20, and the next ten, \$10 each. The contest is open to everyone, the only requirement being entry on an official entry blank.



The working end of the Stewart motor shaft is carried by a long sleeve bearing lubricated by a ball oiler. The ratchet C acts on the button B, which is adjustable from the front of the diaphragm without removing the horn bell.

Prominent Men of Trade Who Assume New Duties

Resignations and Promotions That Serve to Place Many Workers in New Places—Few of Them Leave the Industry

W. E. Burk, until recently general manager and vice-president for the Master Carbureter Corp., Detroit, has returned to the Pacific Coast and will be associated with the Master Carbureter Corp. of Los Angeles. **Arthur L. Jelley**, formerly of Kansas City, Mo., has been appointed general manager, succeeding Burk.

E. B. Foote, formerly with the Westinghouse company, has been appointed territory sales manager of the Newell Motor Car Co., St. Louis, which has just added the products of the Sun Motor Car Co. to its line. Foote will make his headquarters in St. Louis and Memphis, Tenn.

H. P. Lindley, for four years a member of the Bart S. Adams Tire Co., St. Louis, has been appointed branch manager of the Chicago office of the Hardman Tire & Rubber Co., Belleville, N. J. Lindley will have charge of the sales in ten states. He will retain his interest in the Adams company.

C. G. Jackson, former manager of the United States Motor Co., Maxwell distributors in the St. Louis district and previously zone supervisor for the Maxwell company, has joined the sales force of the George C. Brinkman Motor Car Co., which recently was given the Maxwell agency in the Missouri district.

F. A. Hoar, for the past 15 years with the International Harvester Co., has become manager for Harrison Turner, Boston, Moline dealer.

N. G. Manley, manager of the Metz branch in Worcester, Mass., for the past six months, has been promoted and sent west to manage the new Metz branch opened recently in Omaha.

E. W. Bromley has been appointed district manager by the Consolidated Car Co., Detroit. His territory will include Illinois and Indiana.

W. I. Jordan has been made district manager for the Consolidated Car Co. and will supervise sales in Iowa.

Paul R. McKenney has withdrawn from the McKenney-Devlin Co., Detroit, distributor for Haynes, Grant and the Vim truck. Erle E. Devlin is now associated with the company and has been made vice-president. L. A. Devlin is president and George A. Devlin is secretary-treasurer.

Roy Herrington, general manager of the American Electric Car Co., has re-

signed his position to become a factor in the organization of the Anderson Electric Car Co., Detroit. Herrington, who formerly lived in Rockford, Ill., probably will go to that city as the representative of D. E. Whipple, central district manager of the company, with the title of Rockford branch manager.

F. I. Reynolds, formerly tire sales manager of the B. F. Goodrich Co., has been appointed manager of the automobile tire department of the United States Tire Co. O. S. Tweedy, the assistant general sales manager, will take on the complete charge and direction of all the company's branches and depots throughout the country, in which work he will be assisted by the central district manager, G. S. Shugart, whose headquarters are in Chicago.

Charles S. Whitney has been appointed sales manager and assistant to the manager of the Chicago branch of the Willard Storage Battery Co.

C. S. Robertson has been made sales manager of the Savannah Motor Car Co., Savannah, Ga., Scripps-Booth and Stearns-Knight distributor.

Promotion for T. F. McManus

DETROIT, September 4—Theodore F. MacManus is now vice-president of the Erwin & Wasey Co. advertising agency in Chicago and is in charge of the Detroit offices in the Kresge building. MacManus will handle the advertising campaign of the Goodyear Tire & Rubber Co., besides continuing to take care of his old accounts.

Schwarzkopf Leaves Gray & Davis

NEW YORK, Sept. 7—E. E. Schwarzkopf, who has held the title of sales manager for Gray & Davis, Boston, has resigned that position. The resignation takes effect October 1. He has not yet made public his plans for the future.

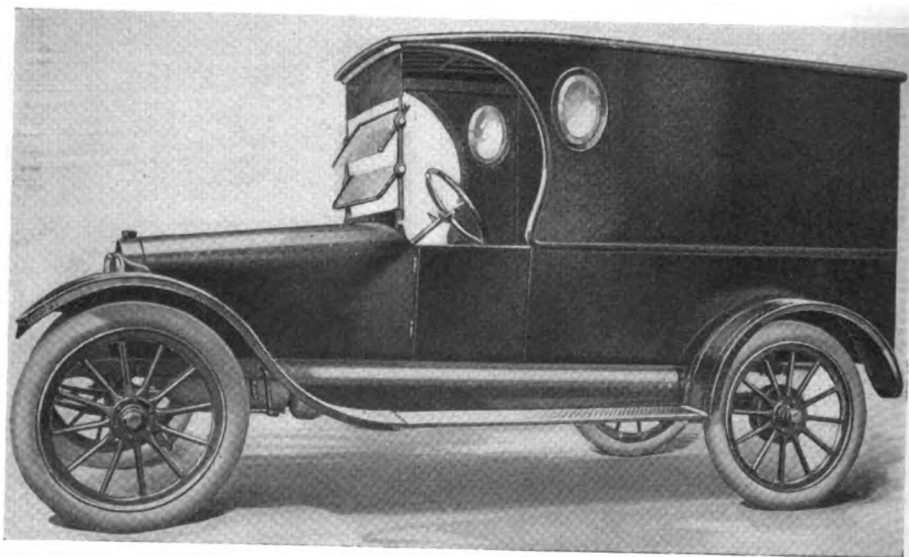
Kearns Trucks Finished On Pleasure Car Lines

Two New Models of 500 and 1,000 Lbs. Capacity Sell for \$475 and \$785—Both Have 4-Cylinder Motors and Tapered Hoods

In bringing out two new delivery cars for quick service in the light delivery field the Kearns Motor Truck Co., Beavertown, Pa., has had in mind the fact that good appearance is of no little importance. Therefore the cars, which have carrying capacities of 500 and 1,000 pounds respectively, and sell for \$475 and \$785, are equipped and finished with the same care as pleasure cars. Hoods are tapered, fenders broad, finish excellent and the trimmings nickel plated.

Construction is conventional throughout. Motors have four cylinders and drive is through three-speed gearsets; in the smaller model the clutch is a cone, while in the larger it may be either a cone or a disk. Cylinders are block cast, cooling is by thermo-syphonic circulation, and ignition by the Connecticut system. A Holly carbureter is used on the smaller car and a Carter on the larger. Gearsets are bolted to the bell housings of the flywheels. Russel axles are used.

The motor of the larger car has cylinders $3\frac{1}{4} \times 5$ and a S. A. E. rating of 16.9 horsepower; the maximum speed is 2,800 r. p. m. In the case of the smaller machine the cylinders are $2\frac{3}{4} \times 4$, the S. A. E. rating 12.08, the speed 2,400 r. p. m.; both cars are said to be capable of a speed of about 40 miles per hour. Pneumatic tires are fitted, 28 x 3 on the smaller car and 30 x $3\frac{1}{2}$ on the larger; wheelbases are 90 and 107 inches, respectively.



Both of the new models brought out by the Kearns Motor Truck Co. are finished along the line of pleasure vehicles with tapered hoods and nickel trimmings

Drummond Four and Six Are Coming from Omaha

Drummond Motor Car Co., Long in Repairing Business, to Bring Out Four at \$1,095 and Six at \$1,275—Both Open and Closed Models

OMAHA, September 5—The Drummond Motor Car Co., which has been in the business of overhauling and rebuilding vehicles for more than a quarter of a century, has just completed arrangements for building automobiles in this city and will hereafter devote time and energy in pushing the product of their own plant. The new car will be called the Drummond and will be put out in both four- and six-cylinder types, selling for \$1,095 and \$1,275, respectively. The body parts of the car are touring, roadster and the standard closed types.

The personnel of the Drummond company follows: President, J. W. Griffith; vice-president and general manager, F. W. Bacon; secretary and treasurer, W. L. Griffith; general sales manager, R. W. Craig.

All-Steel Company Locates in Macon

MACON, MO., September 3—The plant of the All-Steel Motor Car Co., recently organized with a capital of \$400,000, will be located in Macon, Mo. Gen. E. J. Spencer has been elected president and O. A. Trolicht, secretary. Among those financially interested are G. W. Simmons, J. E. Smith and J. E. Pilcher. The company will manufacture a roadster to sell at \$350 and a touring car at \$410. The capacity of the plant will be about 100 cars a day. The body of the car and its general makeup are patented and is made of one piece of 22-gauge steel. The sides are welded to the floor of the car and the whole body can be removed from the running frame. The cars have solid disk wheels.

Davis, Locomobile Head, Dies

BRIDGEPORT, CONN., September 1—S. T. Davis, Jr., president of the Locomobile Co. of America, died here at 2 o'clock last night from hemorrhage of the brain. Mr. Davis was taken ill on Saturday with what appeared to be acute indigestion but a hemorrhage occurred on Monday and his condition became rapidly worse. Mr. Davis, who had been connected with the automobile industry since June 13, 1899, the date on which he used his first car, was born in Washington, D. C., February 8, 1873. He entered Columbia College preparatory school and took the degree of civil engineer from the Rensselaer Polytechnic Institute, Troy, N. Y.

In 1900 he started as treasurer of the Locomobile Co. of America, under

A. L. Barber, a position which he held for two years, after which he became president, an office which he held up to his death. Mr. Davis was one of the organizers of the National Association of Automobile Manufacturers in 1900 and was its first president. Since that time he was on the directorate of this organization and its successors, the National Automobile Board of Trade and the National Automobile Chamber of Commerce, Inc.

DODGE COMBINATION BODIES NOW GOING OUT TO DEALERS

DETROIT, September 4—Dodge dealers are now being supplied with the first combination winter and summer touring or roadster Dodge cars, to be sold at \$950 with either style of body. The car has the regulation roadster or touring car body, but in addition it has a demountable top which is attached to the body without in any way disturbing the windshield. It can be entirely removed in summer and the ordinary mohair top, which is furnished as a part of the regular equipment with the new winter car, substituted.

Trucks Coming from Cadillac

CADILLAC, MICH., September 4—Stockholders in a new automobile truck company organized here have decided to name the concern the Cadillac Auto-Truck Co. They elected the following officers: President and general manager, Walter A. Kysor; vice-president, John P. Wilcox; secretary-treasurer, C. J. Helm. The three officers with F. O. Gaffney, J. C. Ford, Henry Ballou, Henry Knowlton, P. F. Powers and C. J. Shoff form the board of directors, all of whom are Cadillac men.

Few Iowa Men at Convention

DES MOINES, Sept. 4—The attendance at the first convention, Tuesday and Wednesday, of the Iowa Retail Automobile Dealers' Association was quite small. Despite this the few who attended discussed trade problems and listened to addresses by a number of organization men from other states, among them President W. B. Taylor, of the Garage Owners' Association of Illinois.

3-passenger Roadster Is Brought Out by Mitchell

Mounted on Modified "Six of '16" Chassis and Has Individual Driver's Seat—Will List at \$1,250 Completely Equipped

RACINE, WIS., September 4—A three-passenger roadster on the light six chassis has been brought out by the Mitchell-Lewis Motor Co. The price is \$1,250 and the main feature claimed for the new Mitchell is extreme comfort, due to the fact that chassis has been changed to give proper distribution of weight for maximum comfort with the lighter body; it is not merely a touring chassis with a runabout body on it. There is an individual seat for the driver, placed slightly ahead of the passenger seat for two. There is a small package compartment directly back of the driver's seat and a large space for baggage in the rear deck. The equipment is complete.

Moline Price Lower; Motor Larger

EAST MOLINE, ILL., September 6—A new Moline 40 with price reduced \$100, and ¼ inch added to the bore, has been brought out. The price is now \$1,375 and the motor measures 3¼ x 5 inches. The wheelbase is 118 inches, tires are 34 x 4, and completely fitted for the road; the car weighs 2,896 pounds. Cooling is by thermo-syphon and ignition is furnished by Connecticut apparatus. The clutch is a leather-faced cone with cork inserts, the gearset is three-speed and the rear axle is a floating with spiral bevel drive.

Falls Motor Stops Casting

SHEBOYGAN FALLS, WIS., September 7—The Falls Motor Co. has decided to make radical changes in its plant at once. The grey iron foundry, where all cylinders and similar work was cast, is being dismantled and will be transformed into a machine shop. It has been decided to discontinue the casting shop and buy castings outside.

Dealer Factory Visitors of the Week

PAIGE MOTOR CAR CO.

C. G. Schieffer, Schieffer Automobile Co.,
Ft. Wayne, Ind.
A. F. Johnson, Greenville, Mich.
E. J. Casserol, H. A. Porter, Grand Rapids
Arthur D. Ort, South Bend, Ind.
A. H. Reed, St. Louis
Charles J. Moody, Elgin
A. Squier, Ovid, Mich.
C. B. Ehrman, Jackson, O.
A. S. Hill, Port Huron, Mich.
R. D. Rockstead, Milwaukee
E. L. Smith, Howell, Mich.
C. L. Sturtevant, Detroit-Toledo M. C. Co.,
Toledo
F. H. Fabbie, Erie, Mich.
R. L. Courey, Petersburg, Ill.

W. H. Murback, Blissfield, Mich.
Herbert E. Neuhaus, Houston
Ivan E. Brend, Corunna, Mich.
S. D. Bolton, Bolto A. Co., Saginaw, Mich.
Paul L. Klingber, Klingber & Co., Pittsburgh

SAXON MOTOR CO.

H. V. Smith, Marion, Ind.
L. C. Bradley, Duluth
D. Williston, Muncie, Ind.
F. A. Close, Uniontown, Pa.
J. P. Beck, Saginaw, Mich.
A. Squires, Ovid, Mich.
A. Thompson, Windsor, Ont.
Wm. Rae, Grand Rapids, Mich.
H. Schaefer, Dunkirk, N. Y.
C. E. Kersch, Adrian, Mich.

Motor Car Dealers Recently Established

PLEASURE CARS

CANADA

Place	Car	Dealer
Ottawa, Ont.	King	W. C. Greig
St. Catharines, Ont.	Oldsmobile	International Garage

COLORADO

Akron	Saxon	M. W. Lewis
Alamosa	Overland	E. J. Best
Alamosa	Hudson	R. B. Sumner
Aradra	Dort	Aradia Motor Car Co.
Aspen	Overland	Aspen Automobile Co.
Berthoud	Overland	Jeffers Auto Co.
Boulder	Hudson	N. U. Wallace
Boulder	Overland	J. C. Deckelman
Broomfield	Reo	Walter W. Wilcox
Byers	Overland	C. C. Shetler
Canon City	Overland	York Auto Co.
Castle Rock	Overland	E. C. Troplett
Colorado Springs	Hudson	Stenger Motor Co.
Colorado Springs	Overland	J. W. Ross
Colorado Springs	Chevrolet	C. T. Gauss
Colorado Springs	Monroe	C. T. Gauss
Colorado Springs	Oldsmobile	Silver State Auto Co.
Colorado Springs	Reo	Beecher Motor Co.
Colorado Springs	Dort	Hig Four Auto Co.
Craig	Saxon	Anderson & Brokaw
Craig	Overland	Norman Mills
Creech	Chevrolet	Samuel McKibbin
Creech	Monroe	Samuel McKibbin
Cripple Creek	Overland	Cripple Creek A. & E. S. Co.
Denver	King	Regal Sales Co.
Denver	Dort	J. S. Morrison
Denver	National	W. W. Heeson
Denver	Velle	John Deere Plow Co.
Denver	Locomobile	Hupp Motor Sales Co.
Denver	Pullman	G. E. Hannan
Denver	Stearns	Platt-Fawcett M. Co.
Denver	Mitchell	Platt-Fawcett M. Co.
Denver	Hupmobile	Hupp Motor Sales Co.
Denver	Maxwell	Maxwell Motor Sales Corp.
Denver	Chevrolet	W. H. Jones & B. Clark
Denver	Haynes	L. E. Kelton
Eads	Monroe	R. W. Wansted
Eads	Chevrolet	R. W. Wansted
Eagle	Overland	A. B. Koonce
Eaton	Hudson	A. Johnson
Eaton	Overland	Forest Lumber Co.
Edwards	Paige	A. W. Hurnison
Elbert	Bulck	Theodore Neuman
Fairplay	Overland	G. M. Teter
Flagler	Overland	Clyde Seal
Flagler	Saxon	William Seal
Fort Collins	Paige	J. C. Hunt
Fort Collins	Hudson	N. C. Warren
Fort Collins	Oldsmobile	Everett R. Hopper
Fort Collins	Chevrolet	Ben Mossman
Fort Collins	Monroe	Ben Mossman
Fort Morgan	Oldsmobile	J. H. Croft
Fort Morgan	Bulck	Patterson Automobile Co.
Fort Morgan	Overland	A. C. Gillette
Fowler	Overland	J. A. Harrison
Glenwood Springs	Bulck	J. F. McCoy
Glenwood Springs	Overland	C. B. Keck
Glenwood Springs	Oldsmobile	G. A. Hopkins
Grand Junction	Oldsmobile	Western Slope Auto Co.
Grand Junction	Hudson	Western Colo. Motor S. Co.
Grand Junction	Overland	Ramsey Auto Co.
Greeley	Overland	John J. T. Watkins
Greeley	Cadillac	A. E. Nelson
Greeley	Reo	G. E. Howe
Gunnison	Overland	J. E. Wylie
Hartum	Hupmobile	G. W. Gordon
Hot Sulphur Springs	Bulck	E. L. Chatfield
Hot Sulphur Springs	Dort	L. R. Hansen
Hot Sulphur Springs	Hudson	C. F. Free
Hugo	Overland	V. L. Cobb & Hatton
Idaho Springs	Overland	J. Meyer, Jr.
Idaho Springs	Monroe	E. F. Galligan
Idaho Springs	Chevrolet	E. F. Galligan
Idaho Springs	Paige	Richard E. Staley
Julesburg	Oldsmobile	Parker Bros.
La Jara	Overland	Fletcher Hardware Co.
La Junta	Overland	Ideal Garage & Mach. Shop.
Lamar	Overland	I. L. Maxwell
Lamar	Reo	Miller Bros.
Las Animas	Reo	F. W. McCune
Las Animas	Overland	Thomas Merchandising Co.
Leroy	Hupmobile	G. G. Granberger
Littleton	Chevrolet	H. L. Potts
Littleton	Monroe	H. L. Potts
La Salle	Saxon	W. W. Abarr
Leadville	Paige	Kock & Pfannenschmid
Leadville	Reo	Kock & Pfannenschmid
Leadville	Overland	C. A. Edwards
Leadville	Cole	O. W. Reynolds
Longmont	Hudson	A. H. McKlen
Longmont	Chevrolet	Watts & Hilton
Longmont	Monroe	Watts & Hilton
Longmont	Reo	Bonnell & Turkington
Loveland	Saxon	Stewart & McFadden
Meeker	Chevrolet	H. Gordon
Meeker	Monroe	H. Gordon
Monte Vista	Overland	Almond & Gulzow
Monte Vista	Paige	Stephens & Corrington
Montrose	Overland	H. A. Hyatt
Olney Springs	Dort	A. G. Bowers
Ouray	Overland	W. G. McConnell
Paonia	Paige	Joseph Carlstrom
Placerville	Overland	Trumble & Toniolo
Pueblo	Saxon	W. E. Grant
Pueblo	Oldsmobile	Silver State Auto Co.
Pueblo	Monroe	Kneble Auto Co.
Rifle	Overland	C. G. Kendall
Riverside	Hupmobile	A. B. Gilbert

Place	Car	Dealer
Saguache	Overland	Gotthelf & Tarbell Mer. Co.
Salida	Oldsmobile	Salida Auto Co.
Sedgwick	Dort	J. J. Kenney
Sedalia	Dort	J. A. Kroeger
Sterling	Oldsmobile	Felkner Auto & Meh. Co.
Sterling	Reo	H. B. Swedlund
Stratton	Overland	C. A. Reish
Tabernash	Overland	E. A. Morgan
Timnath	Cole	Giddings & Carey
Trinidad	Dodge	J. C. Shy
Trinidad	Hudson	J. C. Shy
Trinidad	Saxon	Mack Patterson
Victor	Hupmobile	Woods Auto Co.
Walsenburg	Oldsmobile	H. D. Palmer
Walsenburg	Saxon	H. D. Palmer
Walsenburg	Overland	A. C. Hill
Windsor	Overland	Windsor Hardware Co.
Windsor	Paige	H. E. Hickman
Wray	Overland	Model Auto & Meh. Co.
Yuma	Overland	H. F. Helsdrum & Son
Yuma	Dort	L. J. Titterton
Yuma	Saxon	Heiserman & Mouser

CONNECTICUT

New Haven	Chandler	J. M. Henry
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DISTRICT OF COLUMBIA

Washington	Grant	C. L. Burrows & Co.
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FLORIDA

Lake City	King	National Highway Garage
Tallahassee	King	Brown's Garage

GEORGIA

Columbus	Abbott-Detroit	C. E. Porter, Jr.
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IDAHO

Blackfoot	Oldsmobile	Red Cross Garage
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Motor Car Securities Quotations

No quotations for the corresponding date in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	Sept. 4, 1915	Asked
Alax-Grieb Rubber Co., com.	101	101
Alax-Grieb Rubber Co., pfd.	101	101
Aluminum Castings, pfd.	102	102
Chalmers Motor Co., com.	95	97
Chalmers Motor Co., pfd.	95	95
Firestone Tire & Rubber Co., com.	520	525
Firestone Tire & Rubber Co., pfd.	111	111
General Motors Co., com.	241	243
General Motors Co., pfd.	113	113
B. F. Goodrich Co., com.	270	274
Goodyear Tire & Rubber Co., com.	270	274
Goodyear Tire & Rubber Co., pfd.	100	100 1/2
International Motor Co., com.	30	31
International Motor Co., pfd.	30	30
Kelly-Springfield Tire Co., com.	100	100 1/2
Kelly-Springfield Tire Co., 1st pfd.	85	87
Kelly-Springfield Tire Co., 2nd pfd.	100	100 1/2
Maxwell Motor Co., com.	43	44 1/2
Maxwell Motor Co., 1st pfd.	90	91 1/2
Maxwell Motor Co., 2nd pfd.	30	30
Miller Rubber Co., com.	100	104
Miller Rubber Co., pfd.	100	104
Packard Motor Car Co., com.	120	120
Packard Motor Car Co., pfd.	101 1/2	101 1/2
Peerless Motor Car Co., com.	120	120
Peerless Motor Car Co., pfd.	90	94
Portage Rubber Co., com.	46	48
Portage Rubber Co., pfd.	93	94
Reo Motor Truck Co., com.	17	17
Reo Motor Car Co., com.	33 1/2	34
Stewart-Warner Speedometer Corp., com.	64	65
Stewart-Warner Speedometer Corp., pfd.	105	107
Studebaker Corp., com.	111	112
Studebaker Corp., pfd.	104	105
Swinehart Tire & Rubber Co., com.	85	88
U. S. Rubber Co., pfd.	49	50
U. S. Rubber Co., 1st pfd.	104	104 1/2
White Co., pfd.	110	110
Willys-Overland Co., com.	102	104
Willys-Overland Co., pfd.	105	106

*Par value \$10; all others par value \$100.

Coming Events

*Indicates sanction by A. A. A.

Sept. 11.....	Burlington, Ia.—Track race meet, Tri-State Affair.	Sept. 6-15.....	Detroit, Mich.; show, Michigan State Fair.
Sept. 18.....	Providence, R. I.—Speedway race meet, Narragansett Park Speedway.*	Sept. 13-17.....	Milwaukee, Wis.; show at State Fair by Milwaukee Automobile Dealers, Inc.
Sept. 20-25.....	San Francisco, Cal., International Engineering Congress.	Sept. 18-25.....	Los Angeles, Cal.; Broadway Automobile and Flower show, Automobile Dealers Assn.
Sept. 20-21.....	Rockford, Ill., Fall reliability run, Rockford Motor Car Dealers' Assn.	Sept. 22-25.....	Reading, Pa., show, Hotel Berkshire.
Sept. 25.....	Chicago, Ill., "Get-together" meeting, Chicago Garage Owners' Assn.	Sept. 27-Oct. 10.	Denver, Col.; show, International Soil Products Exposition, Automobile Trades Assn. of Colorado.
Oct. 1-2.....	Trenton, N. J., Track meet, Inter-State Fair.	Oct.	Dallas, Tex.; show, Dallas Automobile Dealers Assn.
Oct. 2.....	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.	Oct. 2-9.....	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Oct. 2.....	New York—Speedway race meet, Sheepshead Bay Speedway Corp.	Oct. 3-10.....	Annual show, St. Louis Automobile Mfgs. & Dealers Association.
Oct. 4, 5 and 6.	Columbus, O.—State convention; Columbus Garage Owners' Association.	Oct. 4-9.....	St. Louis, Mo., ninth annual show, St. Louis Automobile Manufacturers' and Dealers' Assn.
October 7.....	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.	Oct. 4-14.....	Wichita, Kan., show, Wichita Auto Dealers' Assn.
Oct. 8-9.....	Peoria, Ill., Convention of Garage Owners' Assn. of Ill.	Oct. 6-16.....	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Oct. 9.....	Indianapolis, Ind.—100-mile Invitation Race, Motor Speedway.	Oct. 16-23.....	Pittsburgh, Pa., Eleventh annual show, Motor Square Garden, Automobile Dealers Assn. of Pittsburgh.
Oct. 16.....	Chicago—Speedway race meet, Speedway Park Association.*	Oct. 18-25.....	Troy, N. Y., show, Armory; Troy Automobile Dealers' Assn.
Oct. 18-19.....	Cleveland, O.; Hotel Statler; Sixth Annual Convention, Electric Vehicle Assn. of America.	Nov. 1-3.....	Pasadena, Cal.; show; Hotel Green. Walter Hempel.
Oct. 20-22.....	Excelsior Springs, Mo., quarterly meeting National Assn. of Automobile Accessory Jobbers.	January 1-8.....	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
Sept. 6-10.....	Indianapolis, Ind.; show, Indiana State Fair.	Jan. 8-15.....	Philadelphia, Pa., show, Philadelphia Automobile Trade Assn.
Sept. 6-9.....	Worcester, Mass.—Fifth automobile show in connection with New England Fair; Worcester Automobile Dealers Association.	January 22-29...	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
Sept. 6-11.....	Rockford, Ill., Fall tent show, Rockford Motor Car Dealers' Assn.	Jan. 29-Feb. 5...	Minneapolis Winter Show; Minneapolis Automobile Trade Assn., National Guard Armory.
		Feb. 15-20.....	Omaha, Neb., 10th annual show, Omaha Automobile Show Assn.

THE SHOW CIRCUIT

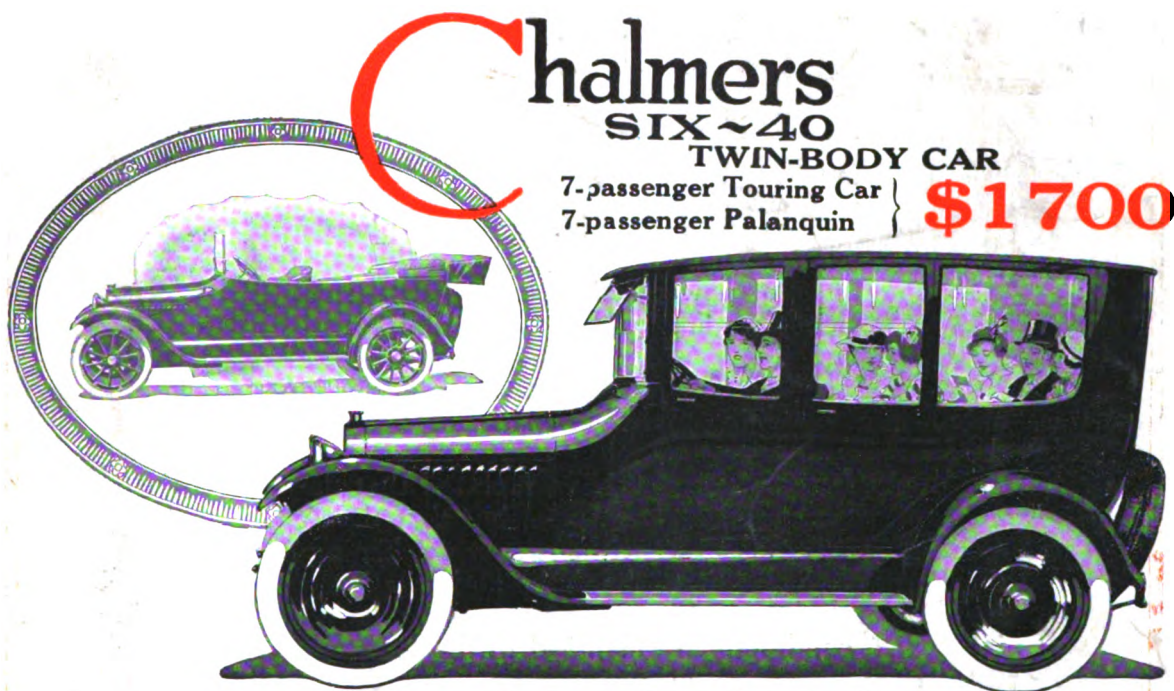
MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 11

New York, September 15, 1915

Ten cents a copy
Two dollars a year



A Closed Car for \$350!

This startling statement is absolutely true in effect.

If you buy a Chalmers Six-40 seven passenger touring car at \$1350 (or own one now) you can get the famous Chalmers Palanquin closed car equipment for only \$350 extra, or \$1700 for both.

The Palanquin transforms the Six-40 seven-passenger body into a luxurious, artistic, aristocratic closed car. It affords at the price of one motor car all the service, style and comfort which heretofore have been made possible only by the purchase of a touring car and a limousine at a cost that ran into the thousands.

WE have adapted the comfort and luxury of the oriental Palanquin to motor car service.

The Palanquin equipment is built with the Six-40 seven-passenger touring body and blends into it perfectly. It fits it exactly. Each touring body is specially ironed to take the Palanquin and when installed it is tightly built right into the touring car.

Both top and body are ironed so that anything but an exact fit is impossible.

When not in use it can be readily taken apart and placed in a small corner of your garage.

Chalmers designers have given an appealing beauty to the Palanquin. It is distinctive, aristocratic, luxurious.

The wide windows are of heavy plate glass curtained with substantial silk, and four of them may be opened if desired. Simply pressing a convenient switch, lights the whole interior so a newspaper may be easily read.

The interior is arranged to give seven adult passengers plenty of room, even when heavy wraps or coats are worn or carried.

The doors are unusually wide and swing out of the way. Both front seats are enclosed and the owner may drive with perfect comfort.

When only five passengers ride the extra seats may be folded in out of sight, allowing a generous amount of luggage to be carried.

Touring Car Complete \$1350

Touring Car complete with extra Palanquin equipment 1700



Quality First

Palanquin equipment only (ready to be quickly fitted to any Chalmers Six-40 seven-passenger touring body) \$350

Three-passenger Roadster 1350

Three-passenger Victoria Cabriolet 1450

Chalmers Motor Company, Detroit

"Let Your Next Car Be a Chalmers"



A-C, CICO & TITAN SPARK PLUGS



DEVELOPMENT OF MOTORS LIMITED BY THE EFFICIENCY OF SPARK PLUGS



Automobile manufacturers are constantly striving for a higher degree of perfection in every detail of their cars and this naturally reflects itself in the spark plugs as when testing motors to obtain the maximum of power, it is found that their efficiency is limited by the quality of the plugs.

We can claim without fear of successful contradiction that we are the only firm in a position to deliver spark plugs capable of withstanding the most severe tests.

Several of the leading factories have reported that they were testing all makes of plugs submitted to them, but that the A C is the only one going through these tests without ever weakening or failing.

When plugs are needed there should be no hesitation as to the logical make. Remember that when pulling up a long, hard hill, or running at high speed, conditions are identical to the tests above mentioned. Accept the endorsement of the leading manufacturers using A C plugs for regular equipment. Here are their names:

Apperson	Federal	Moline-Knight	Reo
Buick	G. M. C.	Monroe	Saxon
Cadillac	Haynes	Moon	Scripps Booth
Chalmers	Harley-Davidson	National	Stearns
Chase	Hudson	Oakland	Stutz
Chevrolet	Hupp	Olds	Touraine
Cole	Knox	Packard	Velie
Dodge	Lambert	Paige	Westcott
Dort	Lexington-Howard	Peerless	Wilcox
Enger	McFarlan	Pierce-Arrow	

We manufacture only A C, Titan and Cico plugs. Do not be misled by a similarity of names.

Champion Ignition Co. Flint, Mich.

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Overland
TRADE MARK REG.

Worth Appreciated



The demand obliges us to ship more than 500 cars daily from our Toledo factory.

Since February, our production has increased a full 100 per cent. *And it is still growing rapidly.*

August shipments totalled 11,465 — more than 3 times those of the same month a year ago.

It is because of such quantities that we are able to offer cars the worth of which is so instantly appreciated.

"Made
in
U. S. A."

The Willys - Overland Company
Toledo, Ohio
Manufacturers of Overland and Willys-Knight automobiles.

Willys
KNIGHT
Sleeve-Valve Motor

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, September 15, 1915

No. 11

A First Stock for the Garageman Who Seeks Greater Profits

If YOU have not been handling accessories—

If YOU plan to do so—

If YOU are undecided as to what to stock and how much to invest—

If YOU are in a town of from 7,000 to 14,000—

You May Stock up for \$363.09 and Make 91% Profit

TO the garageman who plans to embark in the sale of accessories that he may increase the profits of his business the first question is, What shall I stock? How much shall I invest?

After accessories have been sold for a time the question as to stock will automatically work itself out; the demand and the judgment of the accessory dealer will determine the issue. But when practically no stock has been carried and a start must be made the question is puzzling.

The Jobber an Expert

The garageman might make up what he thought was a good stock, and it might be a good stock but the chances are he would omit some things he needs and would buy more than he needs of some other goods. To aid this merchandiser Motor World asked several jobbers to submit a sample "first order." One such, made up by the Reinhard Bros. Co., Minneapolis, is included in this story.

A jobber was asked to do this because the jobber is in close touch with the needs of the accessory dealer. He is called upon every day to replenish depleted stocks. He knows what is in greatest demand. He knows what the beginner must carry and what he can best do without until the business gets a good start. The order totals but \$363.09 wholesale and the profit in it is \$331.55, a profit of 91 per cent.

It includes those things the garageman will need "right off the bat" when he begins to display his goods.

That there might be some basis for computation the order was made up for a garageman in a town of 10,000 population, and this may also run up the scale to about 14,000 and down to 7,000. And in some cases towns of much less than 7,000 will have a greater sales field than much larger towns, especially in agricultural sections of the west.

"And with regard to the difference if the population were 25,000," says C. T. Stevens, vice-president of the company, "we believe the average garage would need about one-third more. And we do not think there would be much more required in a town of 50,000.

Shop Makes a Difference

"Also, the list would be considerably larger if a repairshop were operated in connection with the garage and repair material included in the stock. Where a line of cars is handled it makes some difference, as there are always several specialties that work in to advantage on certain cars and which could be carried.

"In making up this order we have cut the quantity down, also the variety of material, with the idea in mind that this is THE INITIAL ORDER. With proper attention to selling and display and to keeping up the stock the garage in a town of 10,000 could handle a \$1,000 stock to advantage."

This INITIAL ORDER appears on page 7. Following is a list of all the towns in the United States, according to the 1910 census, which ranged between 7,000 and 14,000 and to whose garagemen this order applies. Because of local conditions it is probable that every garageman who used this order as a working basis would make a few changes in it, but it will serve as a most excellent foundation for that greater and more complete stock which will assure the wide-awake garageman of Greater Profits.

DO YOU DO BUSINESS IN ANY ONE OF THESE TOWNS?

ALABAMA	
Town	Population
Anniston	12,794
Bessemer	10,864
Dothan	7,016
Gadsden	10,557
Huntsville	7,611
Selma	13,649
Tuscaloosa	8,407
ARIZONA	
Bisbee	9,019
Globe	7,083
Phoenix	11,134
Tucson	13,193
ARKANSAS	
Argenta	11,138
Helena	8,772
Hot Springs	14,434
CALIFORNIA	
Bakersfield	12,727
Eureka	11,845
Pomona	10,207
Redlands	10,449
San Bernardino	12,779
Santa Ana	8,429
Santa Barbara	11,659
Santa Cruz	11,146
Santa Monica	7,947
Santa Rosa	7,817
Vallejo	11,346

Do You Do Business in Any One of These Towns?

If You Do the Order on the Next Page Is a Good Initial Stock for Your Garage

COLORADO	
Town	Population
Boulder	9,539
Fort Collins	8,210
Grand Junction	7,754
Greeley	8,179
Leadville	7,508
Trinidad	10,204

CONNECTICUT	
Bristol	13,502
Derby	8,991
East Hartford	8,138
Enfield	9,719
Manchester	13,641
Naugatuck	12,722
Orange	11,272
Putnam	7,280
South Norwalk	8,968
Stonington	9,154
Vernon	9,087
Wallingford	11,155
Willimantic	11,230
Winsted	7,754

FLORIDA	
West Tampa	8,258

GEORGIA	
Albany	8,190
Americus	8,063
Athens	14,913
Brunswick	10,182
Griffin	7,478
Rome	12,099
Valdosta	7,656
Waycross	14,485

IDAHO	
Coeur d'Alene	7,291
Pocatello	9,110

ILLINOIS	
Belvidere	7,253
Blue Island	8,043
Cairo	14,548
Canton	10,453
Centralia	9,680
Champaign	12,421
Chicago Heights	14,525
Cicero	14,557
Collinsville	7,478
De Kalb	8,102
Dixon	7,216
Granite	9,903
Harvey	7,227
Kankakee	13,986
Kewanee	9,307
Lasalle	11,537
Lincoln	10,892
Marion	7,093
Mattoon	11,456
Maywood	8,033
Monmouth	9,128
Mount Vernon	8,007
Murphysboro	7,485
Ottawa	9,535
Paris	7,664
Pekin	9,897
Peru	7,984
Spring Valley	7,035
Sterling	7,467
Urbana	8,245

INDIANA	
Bedford	8,716
Bloomington	8,838
Brazil	9,340
Clinton	9,229
Columbus	8,813
Connersville	7,738
Crawfordsville	9,371
Elwood	11,208
Frankfort	8,634
Goshen	8,514
Huntington	10,272
Jeffersonville	10,412
Laporte	10,525
Mishawaka	11,886
New Castle	9,446
Shelbyville	9,500
Vincennes	14,895
Wabash	8,687
Washington	7,854

IOWA	
Boone	10,347
Fort Madison	8,900
Iowa City	10,091
Keokuk	14,008
Marshalltown	13,374
Mason City	11,230
Oskaloosa	9,466

KANSAS	
Arkansas City	7,508
Coffeyville	12,687
Emporia	9,058
Fort Scott	10,463
Independence	10,480

Town	Population
Iola	9,032
Lawrence	12,374
Newton	7,862
Ottawa	7,650
Parsons	12,463
Pittsburg	14,755
Salina	9,688
Wellington	7,034

KENTUCKY	
Ashland	8,688
Bowling Green	9,173
Frankfort	10,465
Henderson	11,452
Hopkinsville	9,419
Middlesboro	7,305
Winchester	7,156

LOUISIANA	
Alexandria	11,213
Baton Rouge	14,897
Lake Charles	11,449
Monroe	10,209
New Iberia	7,499

MAINE	
Augusta	13,211
Bath	9,396
Rockland	8,174
Sanford	9,049
South Portland	7,471
Waterville	11,458
Westbrook	8,281

MARYLAND	
Annapolis	8,609
Frederick	10,411

MASSACHUSETTS	
Adams	13,026
Amesbury	9,894
Andover	7,301
Arlington	11,187
Athol	8,536
Attleboro	16,215
Braintree	8,066
Bridgewater	7,688
Clinton	13,075
Danvers	9,407
Dedham	9,284
Easthampton	8,524
Framingham	12,948
Gardner	14,699
Greenfield	10,427
Marblehead	7,338
Marlboro	14,579
Methuen	11,448
Middleboro	8,214
Milford	13,055
Milton	7,924
Natick	9,866
Newburyport	14,949
N. Attleboro	9,562
Northbridge	8,807
Norwood	8,014
Palmer	8,610
Plymouth	12,141
Saugus	8,047
Southbridge	12,592
Stoneham	7,090
Wakefield	11,404
Ware	8,774
Watertown	12,875
Webster	11,509
W. Springfield	9,224
Weymouth	12,895
Whitman	7,292
Winchester	9,309
Winthrop	10,132

MICHIGAN	
Adrian	10,763
Alpena	12,706
Ann Arbor	14,817
Benton Harbor	9,185
Cadillac	8,375
Escanaba	13,194
Hancock	8,981
Holland	10,490
Iron Mountain	9,216
Ironwood	12,821
Ishpeming	12,448
Laurium	8,537
Ludington	9,132
Manistee	12,381
Marquette	11,503
Menominee	10,507
Mt. Clemens	7,707
Negaunee	8,460
Owosso	9,639
Pontiac	14,532
Sault Ste. Marie	12,615
Traverse City	12,115
Wyandotte	8,287

MINNESOTA	
Brainerd	8,526
Chisholm	7,684

Town	Population
Cloquet	7,031
Crookston	7,559
Mankato	10,365
Red Wing	9,048
Rochester	7,844
St. Cloud	10,600
Stillwater	10,198
Virginia	10,473
Winona	18,583

MISSISSIPPI	
Biloxi	8,049
Columbus City	8,988
Greenville	9,610
Hattiesburg	11,733
Laurel	8,465
Natchez	11,791

MISSOURI	
Cape Girardeau	8,475
Carthage	9,483
Columbia	9,662
Independence	9,859
Jefferson	11,850
Moberly	10,923
Nevada	7,176
St. Charles	9,437
Webb	11,817
Webster Groves	7,080
Wellston	7,312

MONTANA	
Anaconda	10,134
Billings	10,031
Great Falls	13,948
Helena	12,515
Missoula	12,869

NEBRASKA	
Beatrice	9,356
Freemont	8,718
Grand Island	10,326
Hastings	9,338

NEVADA	
Reno	10,867

NEW HAMPSHIRE	
Berlin	11,780
Claremont	7,529
Dover	13,247
Keene	10,068
Laconia	10,183
Portsmouth	11,269
Rochester	8,868

NEW JERSEY	
Asbury Park	10,150
Bridgeton	14,209
Burlington	8,336
Dover	7,468
Englewood	9,924
Garfield	10,213
Gloucester	9,462
Hackensack	14,050
Harrison	14,498
Irvine	11,877
Long Branch	13,298
Millville	12,451
Morristown	12,507
Phillipsburg	13,903
Rahway	9,337
Red Bank	7,398
Rutherford	7,045
South Amboy	7,007
Summit	7,500
West New York	13,560
West Orange	10,980

NEW MEXICO	
Albuquerque	11,020

NEW YORK	
Batavia	11,613
Canandaigua	7,217
Corning	13,730
Cortland	11,504
Fulton	10,480
Geneva	12,446
Herkimer	7,520
Hornell	13,617
Hudson	11,417
Ithaca	14,802
Johnstown	10,447
Lackawanna	14,549
Little Falls	12,273
North Tonawanda	11,955
Norwich	7,422
Olean	14,743
Oneida	8,317
Oneonta	9,491
Ossining	11,480
Plattsburg	11,138
Port Chester	12,809
Port Jervis	9,564
Rensselaer	10,711
Saratoga Springs	12,693
Tonawanda	8,290

NORTH CAROLINA	
Town	Population
Concord	8,715
Elizabeth City	8,412
Fayetteville	7,045
High Point	9,525
New Bern	9,961
Rocky Mount	8,051

NORTH DAKOTA	
Fargo	14,331
Grand Forks	12,478

OHIO	
Barberton	9,410
Bellaire	12,496
Bellefontaine	8,238
Bucyrus	8,122
Cambridge	11,327
Chillicothe	14,508
Conneaut	8,319
Coshocton	9,603
Defiance	7,327
Delaware	9,076
East Cleveland	9,179
Elyria	14,825
Findlay	14,858
Fostoria	9,597
Freemont	9,939
Gallion	7,214
Ironton	13,147
Kenton	7,185
Lancaster	13,093
Marietta	12,923
Billings	9,133
Martins Ferry	13,879
Massillon	13,152
Middletown	9,087
Mount Vernon	8,542
New Philadelphia	8,361
Niles	7,858
Norwalk	13,388
Piqua	8,943
Salem	11,894
Tiffin	7,739
Urbana	7,739
Van Wert	7,157
Warren	11,081
Washington Court House	7,277
Wellsville	7,769
Xenia	8,706

OKLAHOMA	
Ardmore	8,618
Chickasha	10,320
El Reno	7,872
Enid	13,799
Guthrie	11,654
Lawton	7,788
McAlester	12,954
Sapulpa	8,283
Shawnee	12,474

OREGON	
Astoria	9,599
Eugene	9,009
Medford	8,840
Salem	14,094

PENNSYLVANIA	
Archbald	7,194
Beaver Falls	12,191
Bethlehem	12,837
Bloomsburg	7,413
Bradford	14,544
Bristol	9,256
Carlisle	10,303
Carnegie	10,009
Chambersburg	11,800
Charlertoi	9,615
Coatesville	11,084
Columbia	11,454
Connellsville	12,845
Coshocton	7,480
Danville	7,517
Dickson City	9,331
Donora	8,174
Dubois	12,623
Duryea	7,487
Edwardsville	8,407
Franklin	9,767
Greater Punxsutawney	9,058
Greensburg	13,012
Hanover	7,057
Jeannette	8,077
Lansford	8,321
Larksville	9,288
Latrobe	8,777
Lewiston	8,166
Lockhaven	7,772
McKees Rocks	14,702
Meadville	12,780
Millvale	7,861
Milton	7,460
Minersville	7,240
Monessen	11,775
Monongahela	7,598
New Brighton	8,329
North Kensington	7,707
North Braddock	11,824

Town	Population
Northampton	8,729
Old Forge	11,324
Olyphant	8,505
Phoenixville	10,743
Sharpsburg	8,153
South Sharon	10,190
Steelton	14,246
Sunbury	13,770
Swissvale	7,381
Tanawqua	9,462
Tarentum	7,414
Taylor	9,060
Titusville	8,533
Tyrone	7,176
Warren	11,080
Waynesboro	7,199
West Chester	11,767
Windber	8,013

RHODE ISLAND

Bristol	8,565
Burrillville	7,878
Cumberland	10,107
Lincoln	9,825
Westerly	8,696

SOUTH CAROLINA

Anderson	9,654
Florence	7,057
Rock Hill	7,216
Sumter	8,109

SOUTH DAKOTA

Aberdeen	10,753
Lead	8,392
Sioux Falls	14,094
Watertown	7,010

TENNESSEE

Bristol	7,148
Clarksville	8,548
Johnson City	8,502

TEXAS

Abilene	9,204
Amarillo	9,957
Brownsville	10,517
Cleburne	10,364
Corpus Christi	8,222
Corsicana	9,749
Denison	13,632
Gainesville	7,624
Greenville	8,850
Laredo	14,855
Marshall	11,452
Palestine	10,482
Paris	11,269
Port Arthur	7,663
San Angelo	10,321
Sherman	12,412
Temple	10,993
Terrell	7,050
Texarkana	9,790
Tyler	10,400
Wichita Falls	8,200

UTAH

Logan	7,522
Provo	8,925

VERMONT

Barre	10,734
Bennington	8,698
Brattleboro	7,541
Montpelier	7,856
Rutland	13,546
St. Johnsbury	8,098

VIRGINIA

Staunton	10,604
Suffolk	7,008
Winchester	8,864

WASHINGTON

Aberdeen	13,660
Centralia	7,311
Hoquiam	8,171
North Yakima	14,082
Vancouver	9,300

WEST VIRGINIA

Bluefield	11,188
Clarksburg	9,201
Fairmount	9,711
Grafton	7,563
Martinsburg	10,698
Morgantown	9,150
Moundsville	8,918

WISCONSIN

Antigo	7,196
Ashland	11,594
Chippewa Falls	8,893
Janesville	13,894
Manitowoc	13,027
Marinette	14,610
Merrill	8,685
Stevens Point	8,692
Watertown	8,829
Waukesha	8,740

WYOMING

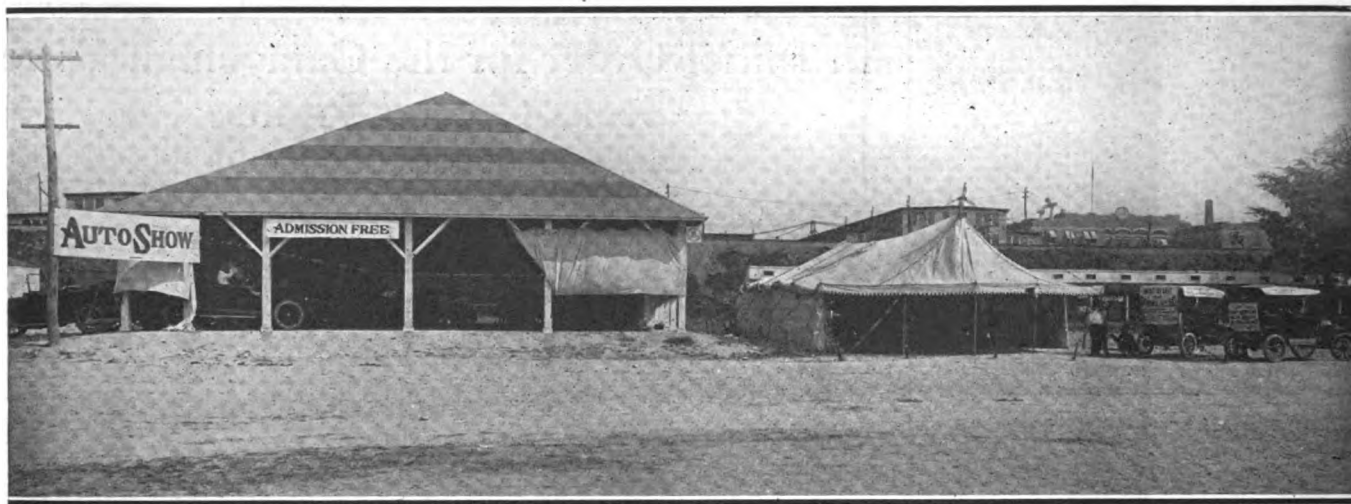
Cheyenne	11,320
Laramie	8,237
Sheridan	8,408

An Initial Order for the Garageman Who Seeks Greater Profits

Cost, \$363.09. Profit, \$331.55, or 91%

Quantity and Article	Cost	Sale Price	Profit
1 electric tail lamp.....	\$.70	\$1.40	\$.70
1 oil tail lamp.....	1.80	3.60	1.80
Assortment Federal Mazda lamp bulbs..	15.95	24.50	8.55
24 gas lamp burners.....	.10	.25	.15
1 drum of carbide (100 lbs.).....	4.02	10.00	5.98
24 ft. ¼-in. copper tubing.....	1.44	2.88	1.44
24 ft. 5/16-in. copper tubing.....	1.80	3.60	1.80
12 gas tank keys.....	.25	.60	.35
Supply of gas lamp tubing fittings.....	3.00	5.00	2.00
2 5½-in. Mangin mirror lenses.....	1.40	2.80	1.40
2 6-in. Mangin mirror lenses.....	1.50	3.00	1.50
2 6½-in. Mangin mirror lenses.....	1.90	3.80	1.90
1 bbl. dry cells.....	38.75	50.00	11.25
3 hydrometers.....	2.25	3.00	.75
3 pocket ammeters.....	1.95	3.00	1.05
Supply of magneto and coil parts.....	17.50	25.00	7.50
12 license brackets.....	3.00	6.00	3.00
3 tool boxes.....	5.00	10.00	5.00
1 jack.....	1.50	3.00	1.50
2 jacks.....	1.20	2.40	1.20
1 foot pump.....	2.80	5.60	2.80
2 foot pumps.....	3.00	6.00	3.00
25 ft. of 3/16 cloth covered pump hose, also used for gas tank connection.....	1.25	2.50	1.25
12 tubes of patching cement.....	.28	.60	.32
6 cans of tiredoh.....	4.20	6.00	1.80
12 cans No-cement patches.....	2.25	5.40	3.15
12 outside blow-out patches, assorted sizes.....	7.50	15.00	7.50
12 inside blow-out patches, assorted sizes.....	4.50	9.00	4.50
12 cans tire talc powder.....	1.00	2.00	1.00
100 tire valve cores.....	2.60	5.20	2.60
12 valve tools.....	1.50	3.00	1.50
1 1-lb. carton of 1-oz. rolls of tape.....	.27	.90	.63
12 ¼-lb. rolls of ¾-in. tape.....	.75	1.80	1.05
2 small gasoline vulcanizers.....	3.00	4.00	1.00
12 pairs of Rid-O-Skid tire chains.....	11.67	35.00	23.33
6 pairs of goggles, assorted sizes.....	2.25	4.50	2.25
2 hand horns.....	4.80	8.00	3.20
6 horn bulbs.....	2.88	4.80	1.92
50 assorted spark plugs.....	20.00	40.00	20.00
50 ft. of spark plug cable.....	5.00	10.00	5.00
50 ft. of primary cable.....	2.50	5.00	2.50
100 ft. of lamp wire.....	3.50	5.00	1.50
100 dozen cell connectors.....	2.50	5.00	2.50
12 lamp connectors, plugs and sockets..	1.50	3.00	1.50
3 lamp switches.....	2.00	2.76	.76
25 assorted fuses.....	.50	1.25	.75
6 automobile springs.....	21.00	30.00	9.00
25 assorted spring clips.....	3.75	7.50	3.75
1 bale of waste.....	10.00	20.00	10.00
6 doz. assorted steel balls.....	.60	1.20	.60
9 3-ft. radiator hose.....	5.85	11.70	5.85
24 hose clamps, assorted sizes.....	1.25	2.50	1.25
500 brake band rivets.....	1.05	2.10	1.05
Brake band lining; 25 ft. each of 6 sizes..	32.25	107.50	75.25
Assortment copper asbestos gaskets....	6.00	12.00	6.00
12 grease cups.....	1.35	2.70	1.35
6 grease guns.....	7.20	14.40	7.20
1 bbl. oil.....	16.25	25.00	8.75
10 1-gal. cans of oil.....	3.75	5.75	2.00
6 5-lb. cans grease.....	2.80	4.20	1.40
6 pints body polish.....	3.00	6.00	3.00
6 pints metal polish.....	1.28	2.10	.82
3 pints neat's-foot oil.....	.75	1.05	.30
1 doz. radiator compound.....	4.50	7.50	3.00
24 pliers.....	3.25	5.40	2.15
12 tire gauges.....	8.40	12.00	3.60
12 adjustable wrenches.....	6.20	9.30	3.10
12 assorted screw-drivers.....	1.80	3.60	1.80
6 hammers.....	1.80	6.00	4.20
Spring washers, machine screws, machine nuts, cotter pins and taper pins.....	20.00	40.00	20.00
TOTAL	\$363.09	\$694.64	\$331.55

A PROFIT OF 91%



THE SHOW BUILDING, THE TRUCK TENT AND TWO FREE-LANCE EXHIBITORS

Many Fair Goers Fail to See Cars

But Worcester Dealers Still Believe in Showing at New England Fair

WORCESTER, MASS., September 9 —The New England Fair, which serves as the setting for the only annual show held by the Worcester Automobile Dealers Association, closed today with a total attendance of about 100,000. From the standpoint of the dealers it was not so satisfactory as in preceding years, and the principal cause assigned for a lessened attendance at the car show is that the parking space, formerly near the show building, has been removed to the opposite side of the grounds nearer the gate. Heretofore the motorists could not fail to see the show; now there is nothing to call it to their attention unless they happen in its vicinity.

But despite this, few of the dealers express dissatisfaction with the show at the fair; they believe it is worth while. Other arrangements may produce a better attendance at the car show next year, for of the 100,000 fair visitors a comparatively too small number saw the cars. Fourteen dealers entered.

The Sixth Show

The show is held at the fair for two reasons. The first is that the show has been held there for six years and has been successful; the second is that there is no building in Worcester suitable for the staging of a winter show. Attempts at a winter show were made in 1907 and in 1910, but the results were unsatisfactory.

And the show at the fair nearly fell through this year because of friction between the association and the fair management. Inasmuch as the management laid a concrete floor a year ago, which

was covered with a tent, and this year added a \$3,000 roof, it felt that the rent of \$150 paid by the association was too small. But instead of asking for more rent the management proposed to sell the space to all comers at about \$25 a car and "clean up." This would have admitted dealers who are not association members.

The association protested and the members declined to take any space in the independent show, and since there are few dealers who are not members, the management was obliged to admit defeat about three days before the show opened and let the dealers have the building. But it did exact a rent of \$300. This amount was prorated among the exhibiting dealers at so much per car, making the rent for each dealer \$25 or \$30. The dealers also did the decorating, consisting of an array of flags.

Maxwell on the Midway

With the building the fair gave space next door, where a tent was put up for the display of trucks, and this made up the exhibit, with the exception of the Maxwell, which elected to display on the Midway. It paid \$2 a foot for 12 feet front, making its rent about the same as that in the building.

Because their dealers are not members of the association there were no exhibits of the Buick, Packard, Overland and Winton. Exhibits not staged because of inability to get cars were: National, Lakewood Garage; Ford, Edward F. Mathews; Cole, Thorwald Hanson.

Since the fair management decided only three days before the show to let the association conduct it, there was practically no advertising. The newspapers supported the show well and the official program carried a page on it.

The cars were brought into the lime-light Tuesday evening in the Battle of the Flowers. Cars loaded with merry-

makers paraded to and fro in front of the grandstand and the occupants bombarded the occupants of other cars with flowers. Prizes were offered for the most energetic bombarders and for decorated cars.

Definite Results

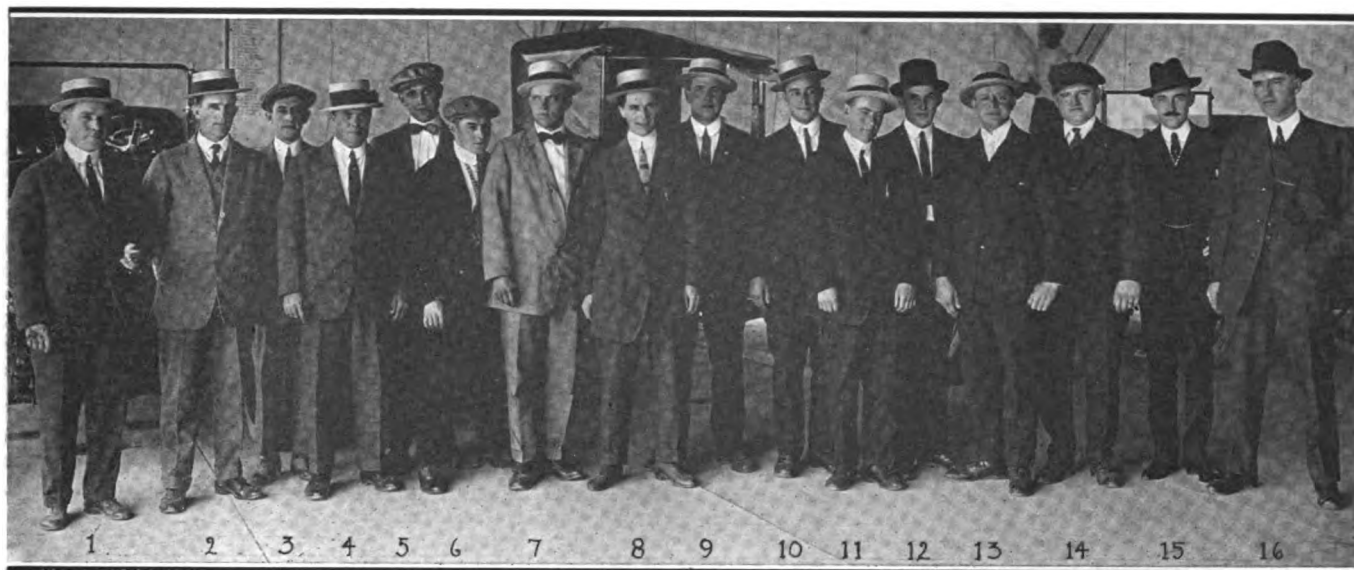
Much of the value of the fair show is the general publicity obtained, but there were also definite results in the way of sales and prospects. The sales made were, as generally is the case at a show, to those who had been prospects for some time and were closed at the show. Practically all the dealers made one or more sales.

The number of prospects secured ran from about 10 up to 100 and 140. The prospects come from all walks of life. While the fair is called the New England Fair and is promoted by the Worcester County Agricultural Society and the New England Agricultural Society, the latter's connection seems largely nominal and the fair draws its patrons mostly from Worcester and a radius of not more than 50 miles. There are, however, a few from southern Vermont and New Hampshire and from Maine.

Not All Good Prospects

Worcester is an industrial city, the chief industry being wire, and the majority of those who attend the fair are not prospects. They may want a car—everyone does—but they can't buy. But of those who inquired about cars some came from distant points and were listed as legitimate prospects.

As is the case at fall shows there was considerable interest in enclosed cars, and the Henley-Kimball Co. went in strongly for this trade, although there were few other enclosed jobs in sight. This enclosed car business also has this characteristic that it must be closed up within five or six weeks. This assures a definite and soon determined knowledge of the show's value. Henley-Kimball secured 26 prospects and Ralph Whittle



A GROUP OF DEALERS AND SALESMEN PHOTOGRAPHED INSIDE THE SHOW BUILDING ON A QUIET MORNING

- | | | | |
|--|---|---|---|
| 1—E. L. Caton, Paige Motor Co. of Worcester; president of the Worcester Automobile Dealers Assn. | 4—F. G. Chandler, with H. J. Murch. | 8—J. V. Gormley, Metz Co. | 13—H. J. Reeves, Henshaw Motor Co. |
| 2—George Redemann, Paige company. | 5—R. H. Cochran, Stanley Motor Carriage Co. | 9—S. H. Tomlinson, Metz Co. | 14—J. Brosnihan, Chandler Motor Co. |
| 3—Nap Gagnon, with H. J. Murch. | 6—D. L. McNamara, Henshaw Motor Co. | 10—R. W. Burnham, F. S. Howard Motor Car Co. | 15—Ralph Whittle, Henley-Kimball Co. |
| | 7—F. E. Churchill, with H. J. Murch. | 11—T. H. Day, Green & Hale. | 16—H. B. Blossom, Jackson Motor Car Co., Boston branch. |
| | | 12—J. C. Harvey, Haynes; vice-president of the association. | |

of that company stated that three enclosed car sales certainly would result.

Whittle also favors a show at the fair if at all. People, he holds, will not come to a show unless brought by some other attraction, and this is furnished by the fair itself. Enclosed car business, he stated, is better now than ever before because the prices of these types are much lower than in the past. This company sent letters to all good prospects before the fair opened.

Demonstrating Difficult

Little demonstrating was done. The Metz salesmen, after profuse arguments with the gateman, succeeded in getting return checks for prospects who were driven outside the grounds for demonstrations, but it was difficult and few others tried it. Also, good demonstrating roads are not readily available and, anyway, those who attend the fair are averse to leaving the grounds and giving up the time necessary. And the man who attends the show wants to see all the cars and is not anxious to have himself pinned down to any particular one.

The dealers, however, enjoy the advantage of being a big toad in a little puddle. The car show is one of the fair's attractions, as cars always are when exhibited. President E. L. Caton, Vice-president J. C. Harvey and Secretary-treasurer O. P. Tyler are all in favor of a show at the fair so long as conditions remain as at present.

There are many other small fairs in New England, but the only other worth while event is the Brockton fair, October 5-8. This is nearer Boston by one-half

and draws a larger attendance of both farmers and city people.

The first day was by far the best. Monday 60,000 people passed in the gates. Tuesday there were 15,000; Wednesday 25,000, and Thursday, the last day, a scant 5,000. Of the 60,000 the surging of the crowd itself forced many within sight of the car show. Twenty-five per cent of the attendance was farmers.

This year New England has been troubled with a hoof and mouth quarantine, and no cattle could be brought in for display. To offset this a veteran firemen's muster and a battle of flowers were staged. The absence of the cattle affected the rural attendance. The farmer is always regarded as a prospect, although the dealers say it is more difficult to sell him than it is the western farmer because of his Yankee proclivities.

The Exhibitors

The exhibitors were: Exhibition Hall—Green & Hale, Oakland and Jackson; F. S. Howard Motor Car Co., Mitchell, Jeffery and Chevrolet; Henshaw Motor Co., Dodge Bros.; F. H. Kenney, Chalmers; Thorwald Hanson, Cole; H. M. Boland & Co., Hupmobile; Henley-Kimball Co., Hudson; H. J. Murch, Cadillac; Paige Motor Co. of Worcester, Paige and Saxon; Chandler Motor Co., Chandler; J. C. Harvey, Haynes; Metz Co., Metz; Stanley Motor Carriage Co., Stanley. Worcester Y. M. C. A. Automobile School.

Truck tent—F. S. Howard Motor Car Co., Vim and Jeffery; Thorwald Hanson, Selden.

On Fair Grounds—J. W. Sargent & Son, Maxwell. Durable Tread Sales Co., Durable treads.

MAXWELL EXHIBIT FOLLOWING ALL THE FAIRS

The staging of the Maxwell exhibit on the Midway, apart from the regular show, is part of a publicity plan being worked out in the factory's Zone 1 by Claude W. Kucker, the zone publicity and promotion man.

He is following all the fairs, large and small, with a chassis and car exhibit and chooses a space in the most crowded part of the grounds for the purpose of getting in touch with the largest number of people. Monday, he states, the whole 60,000 attendance at some time went through the Midway and he always had a crowd. From this number he figures that he got in touch with a large percentage of the prospects who visited the grounds.

The Fair Circuit

The chassis drew a crowd, as did the Metz chassis, the only chassis in the regular show. That a chassis is one of the best attractions in an exhibit is demonstrated every time any kind of show is held, and the point should be considered by every dealer who is planning to enter a show.

The Maxwell exhibit has been shown at fairs in Bangor, Me., Houlton, Me., Marshfield, Mass., St. Johnsbury, Vt., North Adams, Mass., and Worcester. Future fair displays by this company will be in Lewiston, Me., White River Junction, Vt., West Kingston, R. I., Rochester, N. H., Framingham, Mass., Rockingham, Mass., Brockton, Mass., and Northampton, Mass. The season ends October 9.



The circus grounds were hired for the public sale of used cars staged by Secretary Donahue of the Utica Automobile Trade Association; it was not fenced and there was no roof, so expense was at a minimum

Public Sale Solves Utica's Used Car Problem

Secretary Donahue of Trade Association Hires Circus Grounds and Dealers Exhibit Cars at \$2 Each—
\$5,000 Worth Change Hands

EXPENSES	
Rent of circus grounds.....	\$25
Advertising	50
Hand bills (printing).....	2
Sale tickets (printing).....	2
Distributing hand bills.....	1
Total	\$80

RECEIPTS	
Financial statement covering the expenditures and receipts in connection with Donahue's used car sale	
49 cars at \$2 each.....	\$98
Total	\$98

THE dealers in Utica, N. Y., are not likely to be troubled much with the used car problem in the future if

they carry out a plan that was successfully inaugurated Saturday last. The plan is, briefly, to hold periodic public sales of used cars.

At the first sale, held last Saturday, about 20 cars, valued at \$5,000, were sold between the hours of 10 in the morning and 4 in the afternoon, and this despite the fact that the sale was advertised only in a limited way and that only three days of preparation were made for the event.

Sale Will Be Repeated

Geo. C. Donahue, secretary of the Utica Automobile Trade Association, was the father of the idea and responsible for the event which was so successful that the association will repeat it the second Saturday in October.

For some time the used car problem had been troubling the Utica dealers and at last had reached such proportions that drastic and immediate means were necessary to relieve the tension. It was here that Donahue stepped into the breach and engineered the plan outlined herewith.

The initial step in the venture was to find a place in which to hold the sale. For the purpose the circus grounds were hired for the lump sum of \$25. Cars were shown in the open; no fence of

any kind kept prospective customers away from the cars. The sky was the roof. Overhead expense was thus reduced to rock bottom.

To get cars for sale was not difficult;



GEO. C. DONAHUE
Secretary Utica Automobile Trade Association

both dealers and private owners were invited to place cars on display and for each car displayed they were required to purchase a tag like that illustrated for \$2. The tag gave the particulars of the car and also the price at which

it was to be sold. It cost \$2 to have the tags printed. The cars were parked in two long lines, as shown in the photograph, and every car was ready to be run. Demonstrations were made right on the spot.

Advertising Was Limited

Owing to the short time between the conception of the idea and the birth of the plan, the advertising possibility was strictly limited. This disadvantage was overcome, however, by well-phrased and fairly large ads which were inserted daily in the newspapers. In these ads care was taken to point out that this was not in any sense an auction sale. Some persons are adverse to attending auction

WHY WALK?

When you can buy an
Automobile at the Circus
Grounds to-morrow at
almost any price.

(NO AUCTION)

Best Cars at Rock Bottom Prices

Think it over Mr. Walker,
and see if it pays to walk
all your life!

To-Morrow!

Saturday, 10 a. m. to 4 p. m.

BIG SALE AUTOMOBILES

(If you have an automobile to sell
phone Donahue, Hotel Utica)

The time for advertising the event was limited
and a great many persons were reached with
hand bills like this

sales because experience may have taught them that cars on sale are not all that may be represented. Also, the fact that a prospect may have a certain amount to spend and will spend it if he can find a car plainly ticketed at that amount was realized by Donahue.

In addition to the newspaper advertising, and by way of reaching those who may have overlooked the ads, dodgers or handbills were printed at a cost of \$2 and for \$1 these were widely distributed.

In consequence the sale was well attended and, as already has been told, some 20 cars, having a total value of perhaps \$5,000, were driven away from the circus grounds by their new owners. It follows that the dealers who exhibited were more than satisfied.

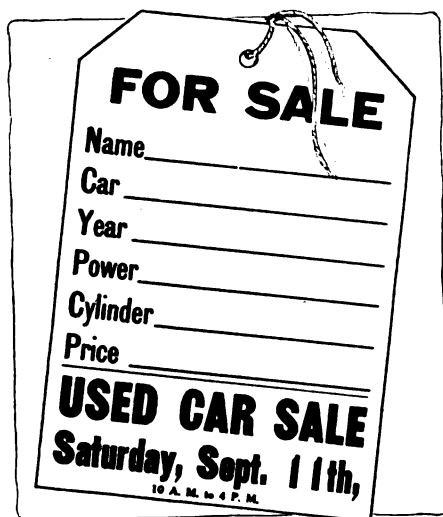
Might Have Had Band

That the event might have been a still greater success is admitted by Donahue, who was unable in the limited time to advertise it as widely as he would have liked. If there had been more time, he states, and someone delegated to see the dealers and sell them tickets to display their used cars, the results would have been much better. Another idea which would have been used had there been time was the use of a band to recall to the absent-minded the fact that the sale was going on.

The private owners who exhibited cars were nine in number and they exhibited 10 cars. The complete list of dealers who participated with the cars on view and their selling prices follows:

Dealers Who Exhibited

A. A. Lederman Co.	
1910 Cadillac, 4 cylinder	\$250
1910 Cadillac, 4 cylinder	350
1910 Cadillac, 4 cylinder	225
H. W. Skinner Motor Car Co.	
1910 Packard, 4 cylinder	850
1915 Regal roadster, 4 cylinder	650
1910 Chalmers coupe	550



Every dealer was required to pay \$2 for a tag like this for the privilege of exhibiting and also to give price and particulars of the car on view

GOING - GOING - GONE AUTOMOBILES

To Be Sold at Rock Bottom Prices
All Makes All Prices

Within the Reach of Any Man.

LOOK THEM OVER SATURDAY.

HOW TO GET THERE: Down Genesee street over railroad bridge, take second right and in front of Standard Oil Company's plant—you will see hundreds of automobiles that are waiting to have new owners.

SATURDAY 10 A. M. TO 4 P. M.

Second-Hand Automobiles

BIG SALE—
ROCK-BOTTOM PRICES!
Now is the time to get
an automobile
cheap

All makes of cars will be for sale
at the first grand sale of automobiles
in Central New York. Come,
look them over and take home the
one you want.

Saturday

from 10 a. m. to 4 p. m. at the
Circus Grounds

Just beyond R. R. station in Utica.
(Any one who desires to dispose
of his car can enter it in this big
sale. Ask your dealer for particu-

AUTOMOBILES

Big Sale of Second Hand Cars

At Circus Grounds in Deerfield

FIFTY DOLLARS Will Buy an Automobile and
These Cars Will Sell From This Price Up.

If you anticipate buying an automobile, this is your opportunity. No commissions and every price will be rock bottom.

Working Men—Buy an automobile to-morrow at the Big Sale just over the bridge in front of the Standard Oil Co.'s plant. This sale is for the man who desires to buy an automobile at LOW PRICE.

Saturday All Day—Circus Grounds

AUTOMOBILES

Second Hand Cars Going Cheap

In this new plan of disposing of second hand cars, there is no expense attached to the sale, such as commissions, storage, rent, demonstrations. Therefore, the prices will be rock bottom and within the reach of any man.

Come to the Big Sale on Saturday

AT THE CIRCUS GROUNDS

In Front of the Standard Oil Building on Warts Avenue.

If YOU Want to Sell Your Car, Ask Your Dealer About Entering It.

The idea was hatched on Wednesday and the sale staged on Saturday and in the interim ads like these were placed in the local newspapers. Note that stress is laid on the fact that this was not an auction sale

1912 Pullman, 6 cylinder	550	Fiscus & Harris	
1910 Chalmers, 4 cylinder	275	1914 Auburn, 4 cylinder	800
1911 Reo delivery	350	Smith Motor Sales Co.	
Robt. F. Payne Co.		1911 Velie, 4 cylinder	225
1913 Velie, 4 cylinder	200	1914 Studebaker, 6 cylinder	600
1912 Maxwell, 4 cylinder	350	1912 Cadillac	550
1909 Regal, 4 cylinder	200	1914 Standard electric	500
Utica Motor Car Co.		1911 Cadillac	400
1910 Lozier, 6 cylinder	250	1914 Overland	450
1913 Chalmers, 4 cylinder	550	1914 Ford	250
1914 Cadillac, 4 cylinder	1,150	1910 Buick	400
Baker electric	200		
1910 Buick, 4 cylinder	200		
Charles R. Childs & Co.			
1912 Jackson	350		
1911 Cole	400		
1914 Jackson	800		
1914 Republic truck	950		
A. K. McLuney & Co.			
1911 truck	600		
Metz Co.			
1915 Metz demonstrator	485		
1915 roadster	385		
1915 roadster	275		
C. E. Rundle & Co.			
1909 Packard, 4 cylinder	350		
1914 Ford roadster	250		
1909 Winton	350		
Empire Sales Co.			
1913 Krit	250		
1914 Regal	500		

Some Supplies Suggest Others

Spare fuses, spark plugs and electric bulbs are three things the owner should always have with him, and when he comes into the store to buy one of these articles there is a good chance that he will also purchase the other two, providing such a suggestion is made to him. He should have a full set of fuses in reserve, a full set of electric bulbs, and at least two extra spark plugs. If he is not so equipped he should be strongly advised to buy them, because the possession of these spare articles is a wise precaution against trouble.

Reading Roots For Fall Show

Berks County Farmers Flock to First Autumn Event and Buy Freely—Little Demand for Closed Cars

READING, PA., September 11—Scores of sales, hundreds of good prospects and no likelihood of a dull winter made the hearts of Reading's automobile dealers happy at the close of the Berkshire automobile show tonight. It was the first time a fall show has ever been held in interior Pennsylvania and every dealer in this Pennsylvania Dutch community is the strongest kind of a rooter for the fall display.

The Reading show was held in the spacious lobby and grill room of the Hotel Berkshire, which offered 3,000 square feet of floor space. The show was the most successful ever held in Reading and from Monday until the close tonight over 15,000 people had attended and about 120 cars were actually sold.

When the subject of a fall show was broached to the Reading dealers by Robert I. Erlichman, of Philadelphia, the promoter, there was a general tendency of hesitation, but when a few contracts were signed the Reading dealers hurried to get into the exhibit, with the result that the hotel lobby did not offer enough floor space. Tonight every dealer in the show during the week asked for reservation next year and every one was happy over the week's results.

During the 1915 season there were 2,000 cars sold in Berks county, but every one of the 16 dealers exhibiting at the local show was ready to predict that the 1916 models would show an increased business in the territory of almost 100 per cent and some wanted to go even higher than that figure.

Berks county has a population of 183,222 and the distributing points of the various dealers is nearly wholly contained within the county. In only rare instances does the territory overrun the boundary into other counties, for the Berks situation is peculiar in that it is thickly populated, with many superior towns branching out from Reading, the hub.

Until within the past few years Reading's automobile owners were conservative in their use of cars the year around, but today there are only rare occasions when motors are put away in storage for the winter. Practically every farmer in the county is now a prospect for a motor car and the wealthier farmers have banded together to finance their poorer brothers in the purchase of a car.

Every exhibitor was enthusiastic for the fall show and all agreed that it is a fallacy to show a man a car at a show

in March which came out as a new model the June before.

E. H. Frantz, president of the Motor Supplies Co., Pullman dealer, said:

"I thought this the wrong time of the year to hold an automobile show, but I'm convinced that I was wrong. I thought the fairs and the early introduction of new models would have detrimental effects on the fall show, but they did not have, and I'm more than satisfied."

"We formerly spent our time in the fall hunting for prospects, but we have sold 82 cars within the past five weeks and I have secured 150 good prospects right at this show and I guess we will have no complaint of a hard winter. We have no time in the spring to give over an entire week for an automobile show, and with new models coming forth in early summer one often does not know just what they are selling at show time. Last year we disposed of 400 cars, but with the aid of this show I expect to run the total of 1916 models to from 600 to 700 cars sold."

J. Guy Britton, Oakland dealer, said:

"I'm very much for the fall show. Why, September and October are the best months for automobiling, the new models are just out

and now is the time the purchaser is interested. I've sold during the week half a dozen cars for delivery in October and November and I feel that this show is going to provide a steady winter business. We can get our cars now from the factories and not disappoint with deliveries."

I. H. Heydt, president of the Heydt Motor Co., said:

"I was a little skeptical of the fall show, but now I believe in showing the new models when they come out. This show is bound to stimulate winter buying and it is going to give the new purchaser the advantage of having a new model car for the fall touring season. I have already equalled my 1914 business and I believe that with the 1916 models I will be able to produce almost 100 per cent more business in my territory."

Little effort was made during the show to push closed cars for winter use, as the general practice in the smaller interior cities finds very little demand for these cars, the preference being the small roadster or the touring car, which is used the year around.

There were 17 exhibitors at the Berkshire show and on Friday night there was a big banquet when factory experts gave talks on the care of cars and batteries. The success of the Reading show has been so great that already there is talk in several other cities in interior Pennsylvania about shows within the next few months.

Minnesota Dealers Favor the Fall Exhibition

State Fair at Hamline, With No Admission Charge, Draws Big Crowd—Excellent Crop Prospects Swell Sales

HAMLIN, MINN., September 10—Farmers are the buyers of Motor cars in the Twin City territory this year. The Minnesota State Fair is a farmers' show, therefore it will pay to exhibit automobiles at that fair, September 6-11.

This was the line of argument that led 43 dealers to exhibit at the fair at Hamline, midway between Minneapolis and St. Paul. The Liberal Arts building showroom was filled, 143 x 324 feet of floor space, and next year there is to be added 50 x 143 feet, which indicates a growing interest in the state fair automobile section.

Does the state fair automobile show pay? This question was asked of a score of dealers who had exhibit space, either in the Liberal Arts building, or in tents, or other buildings on the ground.

The reply was affirmative in every instance, and the reason is the great chance to show the new models of motor cars to the farmer.

As to the fair show, the dealers are expressing their opinion entirely apart from the mooted question of the time to hold the annual automobile show. This fair, in Minnesota, which is really an inter-state fair, is something many dealers feel they cannot afford to miss.

The exhibitors have sent all the men they can spare to the fair grounds and yet keep demonstrators and salesmen enough at the city offices.

With tremendous crops in sight, now even greater than first estimated, dealers realize that the farmer is to be the car buyer and that to get them interested they must exhibit at the state fair. This particular fair devotes a large section to farm implements, gasoline engines, tractors and other farm apparatus, and in Minnesota and the Dakotas the automobile is rated a farm appliance.

F. A. Leischer, sales manager for the Luverne Automobile Co., Luverne, Minn., whose company sells direct, said:

"This state fair show is so far ahead of the winter show for us there is no comparison. It comes in the selling period when models are established and we are ready to do business. We meet the people who are actual buyers who do not think of attending the regular shows. The winter show attendance is composed largely of fanatics and chauffeurs."

J. T. Fisher, representing the Northwestern Automobile Co., said:

"The February show works up business for the spring months, but the state fair show creates interest and sales of machines for use in the fall months of the year, when roads are exceptionally good in this territory and touring is the best of the year."

Summing up the expressions, the fair show is distinctly a retail proposition. Only a few agency contracts are made, and only a small proportion of the agents come in for the exhibition. The exhibit creates a desire among the farmers which works out eventually through the district agents where purchases are not made at the show direct.

Big Demand for Space

So sharp was the demand for space that the H. E. Wilcox Motor Co. was compelled to take an entire building on Machinery Hill to exhibit its trucks and fire engines. The Pence Automobile Co. exhibited eight models in a three-pole tent, which was transported with the state fair special train immediately after the Minnesota fair to Huron, S. D. The Moore 30 was also exhibited in a tent, and the company erected a sharp artificial frame hill to demonstrate the car. A dozen accessory firms exhibited on Machinery Hill also, where some thirty exhibits were made of tractors, in addition to gasoline engines.

It is agreed among the dealers that the Dakotas were never in better buying condition than now. Where the two states have about 50,000 cars, the capacity is much larger and the wealth of the farmers promises that sales will be heavy. Minnesota with its 90,000 cars will be in the market for thousands more. In fact, dealers find the only limit to be the shortage in the shipments from the factories.

Steady Sales Increases

The Brice Auto Co., Grant dealer, disposed of 450 cars last year. It could not get enough cars, and this year figures its sales capacity at 1,200, if the cars can be got.

The Tri-State Auto Co., Moon and Inter-State dealer, expects to sell 150 Inter-States this year as against 100 in 1914-1915. The Moon sales were 63 and the estimate for this year is 100 cars.

The Barclay Automobile Co., Kissel and Scripps-Booth dealer, expects a tremendous increase, having sold more in 30 days this year than six months last season.

The Chalmers N. W. Co. has an estimate of 400-500 cars this year as against 141 in 1915.

Car Shortage Apparent

The Frederick E. Murphy Automobile Co., handling the Mitchell and Paige, expects to sell nearly 1,800 of the two lines. It delivered 450 cars since spring, where it could have sold 800 to 900, except for factory shortage.

Bowman & Libby, Inc., sold 2,160 Overland cars in Minnesota in 1915 and will sell 3,500 in 1915-1916. At present the firm is at least 1,200 behind orders on 1916 models. It could sell 5,000 cars this year if it were possible to deliver.

The Pence Automobile Co., Buick dealer, expects the season to show a third increase over last year.

The state fair in Minnesota has an annual attendance of more than 300,000 persons. The automobile show is the sixth. For two years there was an ad-

mission charge of 25 cents. For four years this has been a free show, and the results have proved the wisdom of the change. Nearly everyone visits the automobile section and more than one-third of the visitors are estimated to be heads of families who pay for the automobiles.

Disapprove Midsummer Announcements

Chicago and Minneapolis Dealer Associations Petition Chamber to Exert Influence for Change

NEW YORK, September 13—Two dealer associations have petitioned the National Automobile Chamber of Commerce to use its influence toward eliminating midsummer announcements of new models. The preference is for bringing out new cars late in the fall and showing them for the first time at the winter shows. The associations petitioning are the Minneapolis Automobile Trade Association and the Chicago Automobile Trade Association. The Chicago petition was signed by nearly all the individual members. The Minneapolis petition was put out as an association communication. Both follow:

CHICAGO

The undersigned automobile dealers and members of the Chicago Automobile Trade Association respectfully petition your organization to use its influence and good offices to discourage the present practice of most of your members (manufacturers of motor cars) in bringing out or making yearly announcements so far in advance of the beginning of the calendar year as the case has been this year—announcements of 1916 models being made as early as May, June and July of 1915.

We believe it is our duty to call your direct attention to the demoralizing effect this practice has on the retail business, to say nothing of the hardship it imposes upon the dealer.

The undersigned are in favor of yearly announcements not being made earlier than December 1st.

MINNEAPOLIS

In justice to ourselves and the automobile trade in general, we beg to call your attention to a practice which has resulted in considerable confusion among the dealers and purchasers of automobiles throughout the Northwest and which we believe has resulted and will continue to result in a loss of business to both the manufacturer and the dealer. This is the practice of manufacturers placing upon the market their models about six months in advance. For instance, the 1916 models would be on exhibition as early as June or July, 1915, and in fact announcements of the 1916 model are made by many manufacturers as early as May.

We believe that the northwest is the most productive and prolific field for the automobile trade in the country. We feel that we are more familiar with conditions pertaining throughout the northwest than the manufacturer whose business is established in the east. Owing to the peculiar conditions existing throughout the northwest the sale of automobiles to the individual users is not in full swing until April or May; in fact, May is probably the heaviest month, and the sales continue throughout June, July, August, and even until September.

It is self-evident that it is unjust to the dealer, with whom you have made a contract to

purchase from the manufacturer a specified number of cars, to put upon the market a later model at possibly a less price in competition with machines that he has on hand and which he has contracted for from the manufacturers at a time when the selling season is at its height. This creates dissatisfaction with the purchasers and scarcely a dealer in the northwest but what has found himself confronted with the proposition of selling a 1915 four-cylinder car for a higher price than the 1916 six-cylinder car of the same make. The result is that the automobile business throughout the northwest, instead of being organized and being profitable to the dealer, as it should be, has become disorganized and has resulted in a great financial loss to many of the dealers.

We feel that manufacturers have been in a hurry to produce a 1916 car and place the same on exhibition with their dealers when they were not in a position to fill the orders for the 1915 cars, and were not in a position to accept orders and fill the same with any degree of promptness for their new models. This results in confusion and considerable loss of business, and has resulted in the cancellation of contracts with sub-dealers and necessarily refunding to them deposit money placed to insure their carrying out of the contract.

At a meeting of the Minneapolis Automobile Trade Association, representing all of the dealers in Minneapolis of any consequence, and representing the automobile trade throughout the entire northwest, it was unanimously resolved to ask your body to so arrange the announcement of new cars that the 1916 cars would not be delivered or announced until about November, 1915, and, inasmuch as many dealers have already placed their 1916 cars on the market, this would apply more particularly to the following years. This would give the dealers an opportunity of cleaning up their 1915 cars during the running season of 1915, and it would not make a purchaser feel that he was running an out-of-date car by running a 1915 model in the year 1915.

This we believe would result in a great advantage to the manufacturer for the reason that the new cars could then be exhibited first at the National Automobile Shows, would attract attention, and at the same time stimulate interest in the new models. It would also permit the manufacturers to manufacture and deliver cars when the same would be needed and called for by the dealers and especially permit the dealer to make his contracts and deliver cars, especially demonstrators, during the winter months when business at the present time is dull, owing to the fact that new models have been on the market for practically six months.

With the keen competition in the automobile business, and the various lines of cars represented in the northwest, we feel in asking you to withhold announcements of new cars until November that we are protecting both our own and your interests and promoting the best interests of the automobile trade in general, and we believe that a careful consideration of this by your body will convince you that our position is not only fair to all concerned by the only logical solution of the present chaotic condition.

Dealer's Legal Status

Unless Certain of Owner's Responsibility Do Not Accept
a Check in Payment for Work Until Bank Has Certified It—Must Sue if Check is Bad

By George F. Kaiser

Editor Motor World:

Will you kindly inform me what I can do in the following case? I did some work and furnished some materials on a motor car. When the work was finished the owner called for the car, but I refused to let him take it away before I was paid for the work. I was offered a check; I called up the bank and, on asking whether it was all right, was told that it was good. Within an hour I presented the check for payment but the bank refused to pay it and told me that payment had been stopped. What rights have I against the maker of the check? Have I any rights against the bank?
New York City. B. B. D.

THE only time a bank is responsible for a check on it is when it has certified that it has enough money in its possession to pay the check in full. Unless you are the holder of a certified check, or have some absolute guarantee from the bank that they will pay some certain check drawn on it, you must look to the maker for payment.

Must Start Suit on Check

In a case like this your only remedy is to start suit on the check, and you should be able to recover without any difficulty.

Your one consolation is that you will not have to sue for work, labor and services performed and materials furnished, and prove all your items of material, time, etc., as by giving you the check the motor car owner recognized your claim to the amount of the check.

Whenever a dealer has any doubt as to the responsibility or good intentions of his customers as regards paying their bills, he should insist upon the customer giving him a certified check before the car leaves his shop. The dealer should remember that in most states he now has a lien for his services and a good lien is much better security than a worthless check. If, on the other hand, he exchanges his lien for a certified check, he is absolutely sure of his money, as the bank will set apart that amount of the customer's deposit to meet his particular check.

If an uncertified check is accepted, the customer may stop payment, withdraw

his account, or reduce it to an amount smaller than the amount of the check.

When a check is offered to you, insist that it be certified, unless you are absolutely sure of the maker's responsibility. If you do accept a check which is uncertified, or even a certified check, deposit it as soon as possible. The sooner the better, as the law holds that a check should be presented immediately and not carried around in a man's pocket for some indefinite time.

Present Checks in 24 Hours

By immediately is meant within a reasonable time; 24 hours is usually considered a reasonable time with regard to depositing a check.

If, instead of stopping payment on the check, the customer draws a check on a bank where he has no account, he may become criminally liable. In order that a dealer may prosecute a person criminally for giving him a bad check, however, he must have a strong case, and if the person is able to show that he had enough money in the bank at the time the check was made, or shortly prior thereto, it is very likely that the courts will refuse to convict him.

Delaware Reciprocity Now Covers Nearly All States

Only Oklahoma, Tennessee, South Carolina and Texas Do Not Exempt
Cars Licensed in Delaware

Editor Motor World:

We heard from a customer of ours who travels over the Eastern States that when he was in Delaware last time he was arrested and fined \$10 and costs, amounting to \$4.75, as their law reads that a license must be taken out for a car owned by a "corporation, co-partnership or firm."

You are given no chance to drive in the state to obtain this license without being subject to the fine, as he told us that he saw a salesman leave his car on the street and, walking to a policeman, asked the state laws. "Where is your car?" was the answer. "There," pointing

to it. "Come down to the police court with me; you are under arrest." And when he hired a lawyer to defend him he was fined \$25 and costs and then had to take out the license as well, and there is absolutely no "come back."

(Signed) G. S.

The story told you by your customer sounds very much like the things that used to occur 10 or 12 years ago. At that time everyone seemed to take delight in imposing on the motorist. At the present time, however, things have changed and instances like you describe do not occur any longer. I fear that your customer was something of a practical joker and was joshing you.

For a number of years past it has not been necessary for a motorist who lives in another state and is licensed by the laws of that state to procure a Delaware license when he wishes to tour through Delaware. Under the state law of Delaware a motorist of any other state has the same right to tour in Delaware without procuring a license as a Delaware motorist would have in the other state. As only Oklahoma, South Carolina, Tennessee and Texas do not exempt other cars, only residents of those four states would be compelled to procure a Delaware license.

PARTS MAKER ENJOINED FROM USING FORD NAME

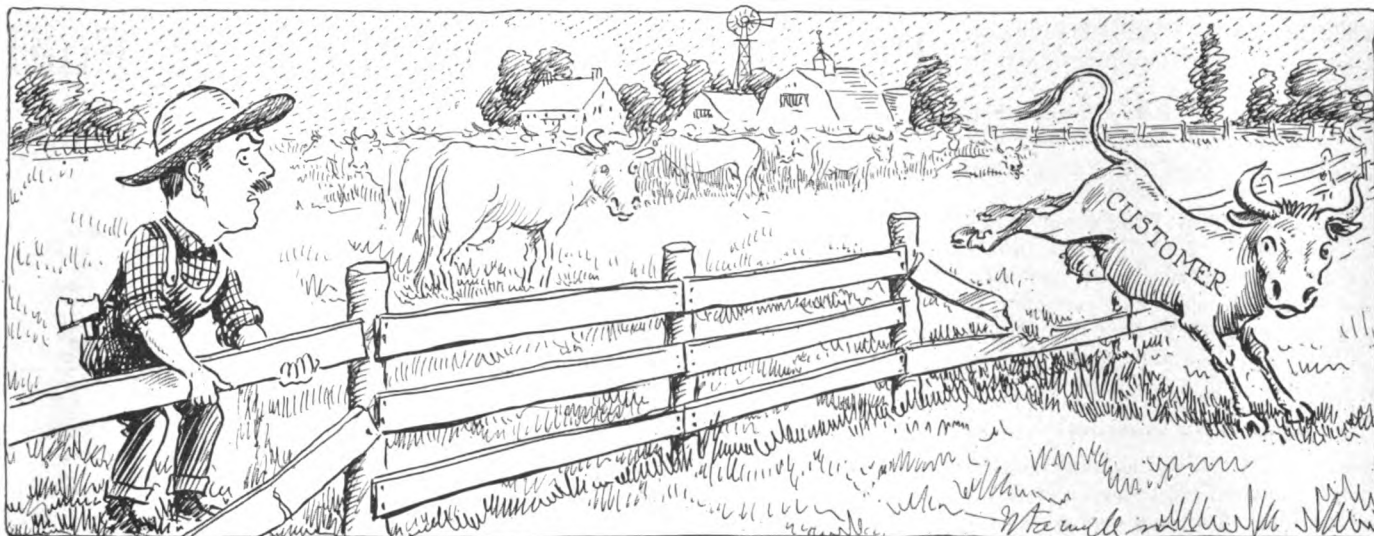
The right of a motor car manufacturer to enjoin a dealer in parts, to be used on the manufacturer's car, from using the manufacturer's trade-name in connection with the parts, was recently upheld in the United States District Court in Rhode Island.

Suit was brought by the Ford Motor Co. against Thomas Wilson, doing business as the Auto Parts Co., and a preliminary injunction was granted.

The dealer manufactured and sold various automobile parts adapted for use in Ford automobiles and extensively advertised these parts, using the name Ford in connection therewith. He also issued a publication called "Fordealer," indicating that he was a dealer in articles of Ford manufacture.

The court granted an injunction to the Ford Motor Co. and held that, although the dealer had a right to tell the public that he was manufacturing articles suitable for use on Ford machines, he should not be allowed to advertise them as "Ford" articles; he should be required to describe them in some way so as to indicate that they were not manufactured by the Ford Motor Co.

The court further held that the fact that the manufacturer did not immediately demand that the dealer stop using the Ford name, did not deprive them of the right to do so when the use became of considerable magnitude. (Ford Motor Co. vs. Wilson, 223 Federal Reporter, 808.)



In Hunt for New Customers Keep Eye on Old

Ben Doyno Repairs His Fences—While Seeking to Build Trade He Plans to Bring Escaped Customers Back into Fold

By Ray W. Sherman

THE first day Reilly got back from his vacation he didn't feel much like work. He had gotten entirely rid of the work habit. Everything he touched seemed to say: "Let me alone! I've been getting along nicely without you around to bother me. So continue the good work!"

After picking up things and putting them down until he became disgusted with himself he decided no work was better than that kind and quit. He put on his hat and walked downtown, and his feet strayed toward Ben Doyno's supply store.

Reilly Getting Old?

"Don't seem to be able to work at all any more," he said, as he sat down at the other side of Ben's desk, on the other side of which the supplyman was poring over account books and card files in great number.

Ben said nothing for nearly a minute. In fact, all he had done when Reilly walked in was look up from the books for an instant. After the interval following Reilly's reply began to assume proportions, Ben replied, still not looking up: "You're getting old." And with that Doyno continued his digging through the books, with now and then a movement of his right hand as he jotted something down on a sheet of paper.

Reilly stood this ignoring for quite a while—as an old friend will—then he meekly asked: "Whatcha doing, Ben?"

Doyno ceased his delving, laid down his pencil and tipped back in his chair.

"Ancient history," he replied. "Repairing my fences."

"Cows getting out?"

"Now and then one gets away," smiled the supplyman, clasping his hands behind his head.

Reilly pulled the big book over. It was accounts of a year or two back.

"What's the system?" he asked.

"Well, you see, it's like this," was Doyno's explanation. "Now and then a customer quits me. I'm trying to get him back."

"Ah hah!" hashimuratoged Reilly.

"I do it every now and then," continued Doyno, flipping the sheet of notes to Reilly for the latter's inspection. "It pays. Really, it does. Now and then I get back a customer who quit with a grouch or something like that, and every customer helps these days."

"He sure does."

"Those names you have there are men who used to come in here quite regularly but who haven't been in for some time. I'm going to do a little looking up on them and see if they can't be brought back again."

Just Looks Things Over

"How do you pick them out?" queried the car dealer.

"Oh, just take all the old account books and card files and run through them. Some of the accounts indicate that the man has quit coming here; that is, if he had a charge account. Then, the card file is our mailing list, and when I see a name I am generally able to re-

member about the man. I make it a point to know as many of my customers as possible and I come pretty near knowing who's quit me and who hasn't."

"What do you do to them?"

"Different things," laughed Doyno. "You can't do the same thing to every one of them. The cases are different. The first thing I do is conduct a little investigation around the store to learn what I can. The boys on the floor generally know quite a little because, you know, customers have their favorite salesmen."

Looks Him Up

"After I have made sure that a man really has quit coming in I do various things. If I can't find out whether he quit in a grouch and can't learn whether he still has his car, I generally write him a letter. I sometimes figure to have a little sale of some kind or a new stock of something new to which I can call his attention. I make the letter personal, and each one is written on a typewriter. I try to get a reply out of him. Once in a while a customer is only waiting for us to say something so he will have an excuse for writing me a hot letter, telling that he doesn't come in any more and that he never intends to come in again."

Both the men laughed.

"Once I get a letter like that the rest is easy," continued Doyno. "That gives me an excuse to go to see the man, and we discuss the grievance right there, face to face. As a general rule, a grouch that

is made known is soon cleared away, especially if I can get an interview with the man——"

"And I suppose," Reilly interrupted, "that he is tickled to death to meet you face to face so he can tell you what he thinks of you."

"Right you are!" was the supplyman's smiling answer. "And I listen to his tirade until he has run down and then try to fix things up. The customer is always right, so they say, and if you admit it he will do almost anything you want him to."

Some Have Grouches

"Sometimes I call up the dealer in the car the customer used to own the last I knew anything about him and ask him if the customer is still driving that car. Most of the dealers have no objection to giving such information. I've gotten it from your place several times, and I don't suppose you ever knew the real reason I wanted it."

"Never guessed it," said Reilly. "And why do you find most of them quit you?"

"Oh-h-h, various reasons. Some of them didn't quit; they just sort of stopped. Some of them, as I said, have grouches. Sometimes we really are to blame and sometimes we have to assume blame unjustly. But we're out to fix our fences and will concede quite a little to get an old customer back."

"One man quits because he thinks the stuff we sold him was no good; another thinks we charge too much and that he can get better satisfaction in some cut-price establishment; sometimes the actions of one of the salesmen have offended; I had one lad here who caused several complaints of that kind, so I let him go."

"In several cases I have had to make cash adjustments to get the man back, but generally they were not much and are taken care of by our reserve for such contingencies. Sometimes a word over the telephone does the trick. Sometimes I plan to meet the man at the club or some place where I know I am likely to run across him. You have to figure in all sorts of ways to get in touch."

Better Than New Business

"Nearly every one is on the lookout for new business. I am, you are, every one is. We try to get new customers. But to my mind it is just as essential to get back all the customers you have lost. A man running loose with a grievance against you hurts your business. If you lost his trade alone it wouldn't be so important, but when he goes around knocking you he puts a still bigger crimp in your business."

"Why can't I put this scheme into operation?" demanded Reilly.

"Sure! Why not?"

"I believe I will!" asserted the car dealer.

Plan to Govern Price of Fuel

Middle West Independents Declare for Price Based on Production Cost—Have Raised Price Despite Standard and Later Will Reduce

KANSAS CITY, September 10—The independent refiners and jobbers of the Middle West have boldly declared that henceforth, in that district, the prices of gasoline and kerosene shall be based solely on the cost of production. They are now in the midst of an apparently successful demonstration of their power to make good. They have taken the bit in their teeth and raised the price of gasoline against the competition of the Standard. They say they will be equally resolute in lowering prices on their own hook when conditions warrant such action.

Independents Advance 1 Cent

As a result of the conclusion by the independent refiners of the Middle West that an advance was necessary to save them from loss, the price of gasoline at the independent filling stations in Kansas City has been advanced from 8.8 cents to 9.8 cents. The Standard is still selling at 8.8 cents. As a matter of fact, a few independent stations had throughout the "war" maintained the price of 9.8 cents, and they are now competing on even terms with the other independents. The advance was made general throughout Kansas and Missouri on September 1. All the producing companies participated except the Standard and the National, the latter alone of the independent refiners holding to the old price. The Cudahy Oil Co., which is independent, at first declined to mark up the price, but later decided to do so in sympathy.

The reason given by the Standard officials for not marking an advance is that it has contracts covering the balance of this year at the lower price. The independents have contracts, too, which they are honoring; and the question is asked what bearing these contracts may have on the raise of price to customers without them.

Business Evenly Divided

The independent refiners and jobbers considered long before taking the step of advancing prices in the face of a large probable loss of business. Finally they decided that even if the loss amounted to 40 or 50 per cent the step was necessary. Now they report that the loss of business is really less than 5 per cent, and that even this is likely to be regained. Official figures show that in both Kansas and Missouri the independents are pretty nearly evenly dividing the sale of gaso-

line with the Standard; and that in the cities they have fully 75 per cent of the business. This statement holds good in Kansas City, St. Joseph, Topeka and Wichita.

Standard Uses Burton Process

The statement is made by an official of the independent refiners' association that when the independents, in their present movement, shall have demonstrated their ability to advance the price of the refined product "without the aid or consent" of the Standard, there will be a new era in the oil business in the Middle West.

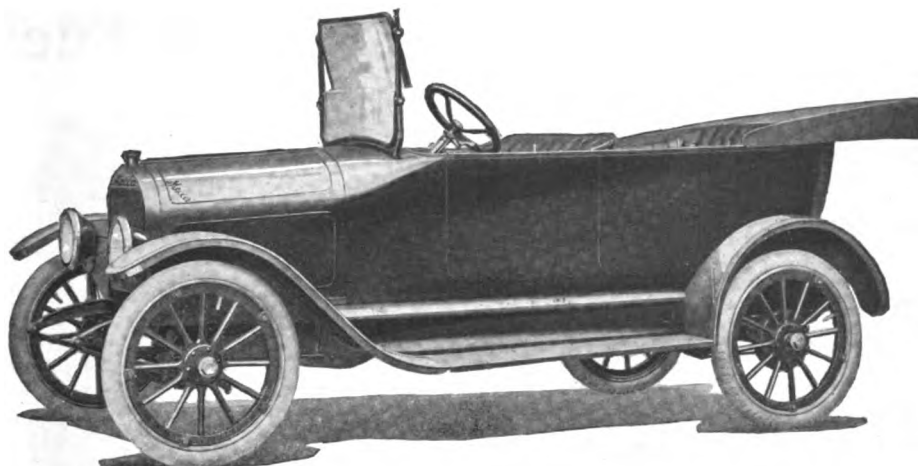
The Prairie Oil & Gas Co., which is the Standard buying and refining concern in the Oklahoma and Kansas field, is refining oil in that district under what is known as the Burton process, which enables it to realize from 70 to 75 per cent of gasoline instead of from 15 to 18 per cent as formerly.

Contrary to the general view, it was the independents that put the price of gasoline down at the time when the price of crude oil warranted the reduction. The fall in crude oil resulted from the overbuilding of refineries and a consequent rush to get the market. There is no disposition, it is now said, to force the price up to the old figure unless the continued advance of the crude price should make that necessary. They do not anticipate that crude oil will advance far enough to require any further advance in gasoline.

Legal Proceedings Denied

It was reported a few days ago that legal proceedings are contemplated by the attorney-general or somebody else in Kansas to force the attitude of the Standard. Independents deny that any such step is in prospect, though one or two independents may have talked about it. They say there is no disposition to instigate such proceedings. They believe that when the big oil corporation comes to realize that changes in prices do not necessarily wait on its will and dictum, it will follow the lead of the independents in readjusting prices to new conditions.

They believe that they will continue to be sufficiently influential to cause a general reduction, devoid of price-cutting irregularities and distresses, if later conditions should warrant that. All they want is a chance to tote fair with each other and the public.



The Mecca 5-passenger has a wheelbase of 104 inches and 30 x 3½ tires. The body lines are modern in their simplicity and smoothness. The car is finished in blue

Times Square Builds Mecca to Sell at \$695

Mounts 5-Passenger and Roadster Bodies and Is Constructed of Standard Parts Throughout—Axle Has Gearless Differential

AN assembled car has been put on the market by the Times Square Automobile Co. of New York and Chicago, a concern which has now, in addition to its line of rebuilt and used cars, brought out a product to meet the demands of those desiring a new car at moderate price. The car is made in Detroit and sells for \$695 f. o. b. that city.

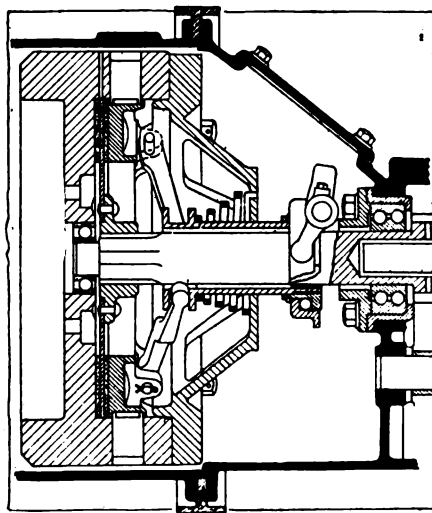
The standard body is a five-passenger touring with streamline design. In addition there is a roadster or raceabout of two-passenger capacity. The cars are finished in what the makers call Mecca blue, which is a blue somewhat on the shade of what is commonly known as royal. The car is sold with full equipment, including the electric starting and lighting system, two electric headlights equipped with dimmers, electric tail lights, silk mohair one-man top, two-piece rain-vision windshield, number bracket, robe rail, quick-adjustable side curtains, tools, tire holders, extra rim, pump and warning signal.

The car is assembled from parts made by well-known concerns. The motor is of standard construction throughout, the cylinders and pistons being gray iron with light-weight aluminum crankcase and gearset housing bolted together in unit power plant style. The bearings are nickel babbitt and are three in number for the crankshaft. Liberal bearing sizes and a heavy flywheel are used. The makers claim that with this motor the car is free from vibration up to 40 m. p. h.

Cast-iron valves with steel stems are employed. The drive for the valves is through a chain-driven camshaft, thence through the integral cams to positive lifters. The valves have a clear opening

MECCA SPECIFICATION TABLE

Price, touring.....	\$695
Motor, Golden, Belknap, Schwartz	
Number of cylinders.....	4
Shape	L-head
How cast	Block
Bore	3¾
Stroke	4½
S. A. E. rating.....	22.5
Magneto	Dixie
Carbureter	Schebler
Starting-lighting	Disco
Clutch	Single plate
Gearset	3-speed
Wheelbase	104
Tires	30 x 3½
Type rear axle.....	Semi-floating



The single disk clutch runs in oil and is self adjusting for wear. The release is positively effected

of 1⅝ inch in diameter. The outside diameter of the valves is 1 13/16 inch and the lift 7/32 inch. The valves are adjustable in the customary manner and are enclosed. The driving chains run in oil and have provision for adjustment to take up any slack.

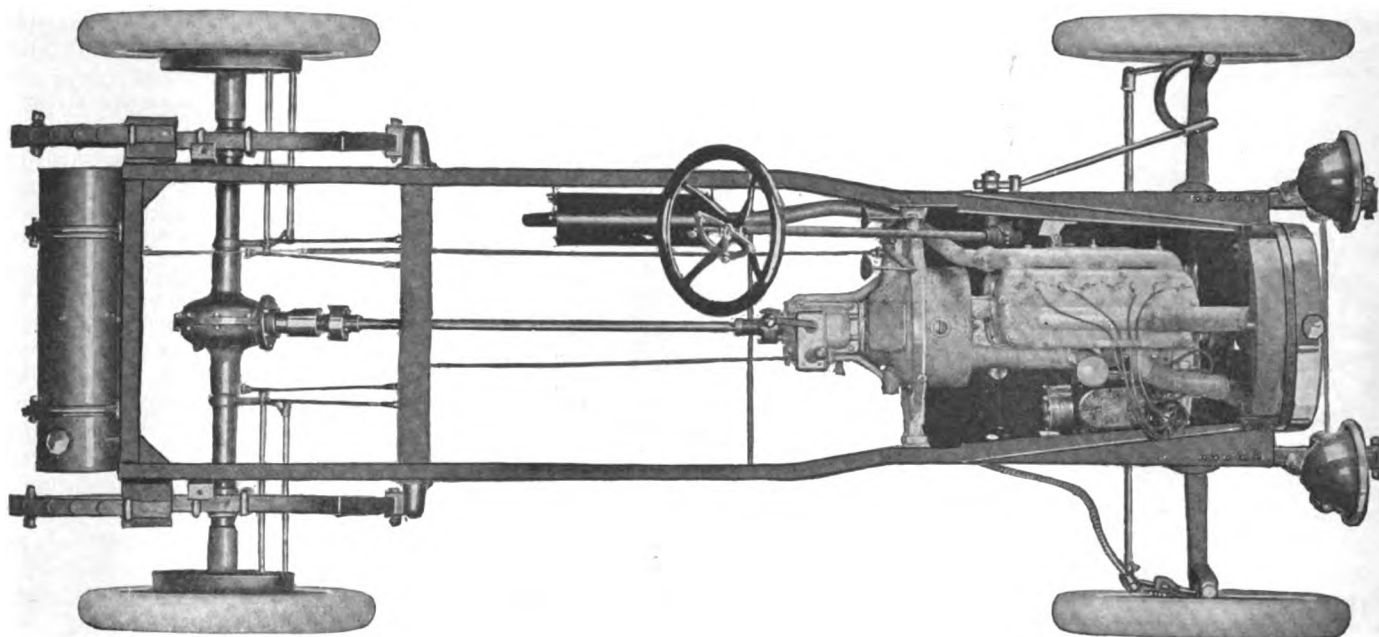
In the selection of materials an ample factor of safety will be found to have been left in all parts under shocking stresses. The connecting rods are .30 to .36 carbon steel, drop forged and heat treated. They are of I-beam section and have ample bearing area both at the oscillating piston pin point and at the large end bearing on the crankshaft. The bearings in the connecting rods, as well as those for the crankshaft, are ground to size and the material used in the crankshaft is .35 to .40 carbon steel. This is, of course, a drop forging and is heat treated to produce the rigidity necessary in this class of work.

In the oiling system, which is a pressure feed to the main bearings, the plunger pump is operated directly from the exhaust cam for the number four, or rear cylinder. This pump delivers oil under pressure to a sight feed on the dash, whence it passes directly to the motor bearings. In addition to the feed to the bearings the internal parts of the motor are lubricated by the oil mist created by the revolving cranks. This oil vapor pervades the entire crankcase and supplies an ample amount of lubricant to take care of the needs of the pistons and cylinders.

A Stewart vacuum system is used for gasoline feed. The carbureter is a Schebler. The 10-gallon gasoline tank is hung from the rear of the frame and the auxiliary tank is mounted on the dash.

Ignition is by the Splitdorf Dixie model high-tension magneto and the balance of the electric equipment is made up of the Disco units for electric lighting and starting. This is a single unit system connected to the crankshaft by silent chain. The motor generator starts charging the battery at a car speed of about 9 m. p. h. and operates in connection with a Detroit storage battery.

Power is taken from the motor by a single steel dry plate clutch which operates between two wire-woven asbestos friction disks running in oil. The gearset is a selective design providing three forward speeds. The control is central, with the gearshift lever mounted directly on the cover plate of the gearbox. This clutch and gearbox unit gives a very compact design and one of the features claimed for the clutch is that when once properly set it will never need to be readjusted. According to the maker, with all the parts running in oil to reduce wear and due to the positive action through the series of clamping levers given by the spring pressure, the clutch is never so worn as to need a readjust-



Bottle-necking the frame permits short turning. Fuel is carried in a rear tank and fed to the carburetor by a Stewart vacuum tank. The rear axle is of semi-floating construction and is equipped with a very accessible gearless differential

ment. At the time of disengaging the engaging or clamping levers a master ring revolves, positively releasing the disks.

Final drive is through two universals to a semi-floating rear axle. The axle is provided with a gearless differential which is mounted accessibly under a

large cover plate. The bearing equipment in the rear axle consists of Hyatt rollers of high-duty type. The frame construction is of pressed channel steel and the springs are semi-elliptic front and three-quarter elliptic rear. The main leaves are of vanadium steel and are guaranteed against breakage for two

years. Both sets of brakes are on the rear wheels, the drums are 12 inches in diameter, the wheels are hickory and are equipped with demountable rims taking 30 x 3½ tires. Non-skid tires are furnished in the rear as standard equipment.

The car is sold with full equipment.

Keeping Track of the Tires in Stock

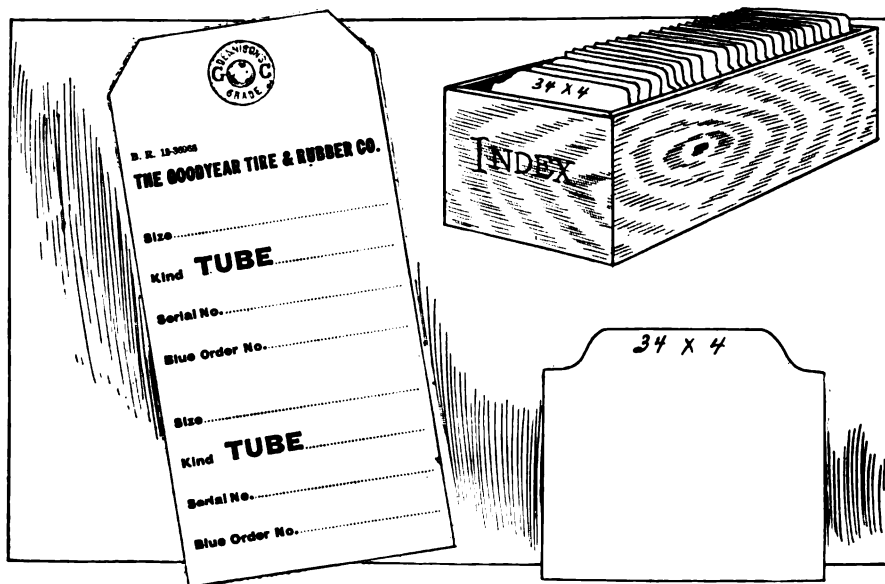
Goodyear Supplying Complete System That Is Simple and Accurate

A dependable system for keeping track of the number and kind of tires which a dealer is carrying in stock is an absolute necessity and the Goodyear Tire & Rubber Co., Akron, has developed such a system for the use of its dealers which is simplicity itself and which gives an accurate record at all times of the condition of the stock.

The system consists of five tags of different colors, four of which are used for the four different kinds of Goodyear tires—Quick Detachable Clincher, Regular Clincher, No Rim Cut, and Miscellaneous—and the fifth for tubes. Each tag, as shown in the accompanying illustration, has places for size, the kind and the serial number, etc., and each tag has a detachable coupon. In operation a tag of the proper variety is attached to each tire as it is received, and the serial number and other facts are placed on both the tag and coupon. The detachable coupon is then removed and filed in a small index box, which also is supplied as part of the system.

The system is valuable for the reason that it provides a perpetual inventory of the stock on hand. When a tire or tube is sold the detachable portion of the tag is removed from the index box and may be filed in any way the dealer sees fit. Generally, this portion can be filed with the customer's order or the cash slip,

as the case may be. Another method of filing this information would be to place the detachable portions in numerical order so that the date when a particular casing or tube was sold may be ascertained quickly for purposes of adjustment. The system has another advantage in that it enables the dealer to locate a particular type or size of tire without the necessity for overhauling much of his stock.



The tag is attached to the tire when placed in stock and the stub is removed and filed in the index case. Reference to the stubs on file shows the condition of the stock

Facts About Cars

DIAGONAL PARKING PUTS WHEELS OUT OF LINE

The writer was recently in conversation with the head of the service department of a well-known motor car manufacturer and the latter remarked that never before had steering trouble been so frequent. Every year, of course, he explained, a certain number of complaints of rapid front tire wear come to him, which are proved on investigation to be due to the steering tie rod being strained so that the wheels are out of truth or track. This year without any change in the design of this part of the car the trouble has suddenly assumed serious proportions instead of being negligible.

The informant went on to express the opinion that this was owing to the popularity of diagonal parking, which has become so popular with police in many cities, and the writer took a half hour to watch the cars in the main shopping quarter of Detroit. Counting 100 cars parked stationary, 87 had one front wheel bearing fairly hard against the curb, as shown by slight depression in the tire at the point of contact, and only the remaining 13 were locked on the brakes so as to stand just clear of the edge of the sidewalk. Then observation was made of 20 cars stopping in parking positions and of these 1 stopped on the brakes, clear of the curb; 12 stopped on the brakes and then let the car run the last foot till the tire touched, and 7 pulled up on the brakes and curb together, hitting the curb with a good bump.

Altogether, therefore, it looks as though the repairmen in diagonal parking towns might make a special feature of constantly testing customers' cars for wheel alignment.—A. L. Clayden.

Protection of Body Finish

Paints and colors on the automobile wear in proportion to the measure of protection afforded them by the varnish. The surface of varnish that has been for months cleaned, renovated and polished, until it would fairly seem stripped of all its substance, has very little left with which to protect and give life to the color coats, and, incidentally, to the coats protecting them. It has been proven by numerous tests conducted by motor car painters that the average finish on the car exposed to daily road service needs replenishing at the expiration of 4 or 5, and at the longest, 6 months. To carry the finish along beyond that time without at least a coat or two of var-

nish, as local needs and conditions may suggest, is to trifle with a matter of expense. Usually a coat of color and a coat or two of varnish will save a lot of thoroughgoing painting repairs which otherwise might be necessary a few months later. It is of the utmost importance that the exceedingly sensitive and delicate color coats be kept amply protected by varnish.

HIGH VISCOSITY CHARACTERISTIC OF CASTOR OIL

Castor oil has found favor in racing work because of its high viscosity compared with the ordinary lubricating oil. The high temperatures which are found in racing engines require the greatest possible viscosity in order that the working parts may be lubricated and the minimum amount of lubricant will get up into the combustion chambers.

Castor oil carbonizes more quickly, but this is offset by its better lubricating properties at extreme temperatures. For ordinary work castor oil is not to be recommended on account of this carbonization and because of the much greater cost, which would be out of proportion to the advantages gained.

A further advantage of castor oil is that owing to the smaller amount which finds its way into the combustion chambers, less goes to waste by burning—an advantage in long races.

Castor oil is specially advantageous under extreme heat, but under normal heat, as found in the ordinary automobile doing normal work, it is less advantageous than a good mineral oil, principally because of this very viscous quality. It has a gummy tendency.

A special point is made in some sources that due to its high viscosity with light body, castor oil is advantageously used in transmissions, particularly in worm gearing. It has a marked effect towards silencing the gearing.

Some tests of castor oil and of mineral oils are appended:

	Viscosity at Fahr. Temperatures		
	140 deg.	212 deg.	248 deg.
Castor oil.....	10.72	2.72	1.95
Mineral oil No. 1....	3.37	1.65	1.41
Mineral oil No. 2....	2.75	1.46	1.20

MOROCCO IS LAST WORD IN LEATHER UPHOLSTERY

The last word in top and upholstering goods is probably Morocco, water grain, French finish, hand-buffed leather. This leather is to be had in either pebble or straight grain and in all the popular colors, black, green, etc. The Morocco leather, finished as above, represents the most elegant and expensive class of trimming leathers used on automobiles.

Next to the Morocco is the hand-buffed Spanish leather likewise furnished in practically all colors. This Spanish material yields beautiful effects. These leathers may also be obtained in machine-buffed form.

Specially buffed leather, split grades, and so on, are extensively employed in top and upholstery work, and such leathers show an attractive form and finish and stand up nicely under severe service at a moderate cost.

Black enamel top leather, either in pebble or straight grain, and in various grades is, in addition to the above, being put into trimming.

Finding Area of a Circle

The area of a circle is .7854 times the diameter squared, Fig. 1. Let the letter D stand for the diameter, then D^2 ($D \times D$) equals the area of the square. The area of the circle is .7854 times the area of the square, and therefore the area of the circle is .7854 D^2 .

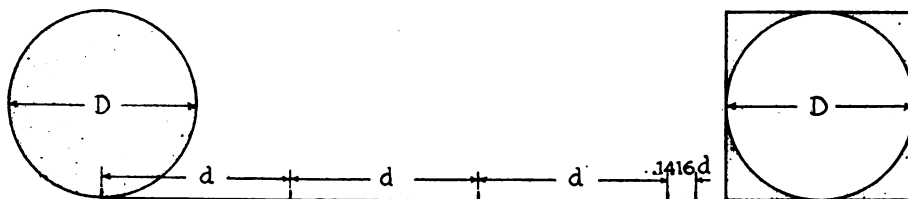
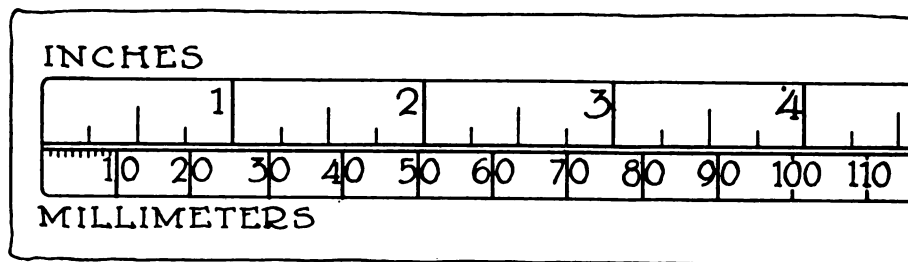


Fig. 1—Left—Diagram showing ratio of diameter to circumference. Right—Area of circle is .7854 times the area of the square



Inches and millimeters, full size, placed on the same scale to give ready means of comparison

Standards Lighten the Burden of the Retail Trade

Reduce Stock of Parts Necessary, Permit Quicker Jobs and Better Work—What the Society of Automobile Engineers Is Doing

THE additional standards recently adopted by the Society of Automobile Engineers should be of considerable aid to the dealer in reducing the stock of supplies and repair material required to carry on his business. Fan belt and pulley widths, cotter pin sizes, brake lining sizes, bulb dimensions, carbureter flanges and many other items have become recommended standard practice, as was told last week in *Motor World*.

Flat fan belt and pulley widths have been reduced to four standard sizes. The nominal sizes are $\frac{3}{4}$, 1, $1\frac{1}{4}$ and $1\frac{1}{2}$ inches and a variation of $\frac{1}{32}$ from these figures is allowable.

Means Reduction of Stock

This means virtually that eventually the dealer, the garageman and the repairshop operator will find it necessary to stock only these standard sizes. With these four sizes in stock he may feel certain of being able to fit a new belt to any car that may come to him without the necessity for cutting the material. The same applies to pulley widths, though, of course, the diameter will vary slightly.

Bulb bases, sockets and connector plugs have been standardized for both single- and double-wire systems, Fig. 3. Heretofore only electric bulb bases and sockets for double contact had standard dimensions. With the adoption of these standards it will, in time, be necessary to carry only two styles of bases for all kinds and sizes of bulbs. This will mean a great reduction in the number of bulbs that will be required in

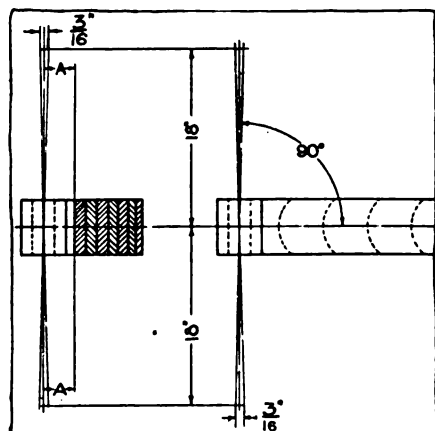


Fig. 1—Test for parallelism of spring eyes. The bar is placed in the spring eye and at a distance of 18 inches it must not be more than $\frac{3}{32}$ inch from the perpendicular

IT IS doubtful if many garagemen, repairshop operators or car and accessory dealers are familiar with the exact meaning to them of the work of the Society of Automobile Engineers.

That the body exists they doubtless are aware, but the question must continually arise as to what the organization is doing and what the benefits are to those not directly connected with the engineering part of the automobile industry.

This question is answered in part herewith. This article tells of the most recently adopted standards of the S. A. E. and exactly what they mean to the retail trade.

They mean, briefly, reduced stocks of parts, a reduction in the time required for a given job, greater convenience to the car owner, better satisfaction for every one all around.—Editor.

stock. For example, all single contact bulbs regardless of size or voltage will fit in any single contact socket, and the same applies to the double contact system.

The adoption of a standard plug end makes it possible for a dealer to sell a cigar lighter over the counter with the certain knowledge that it is going to fit, and that there is no danger of the customer bringing it back because it will not.

Incidentally the dealer can greatly aid in the sweeping adoption of these standard fittings by using them wherever possible in placing extra electrical equipment on a car, in installing a new system on an old car, or in overhauling an old system.

Five Brake Lining Thicknesses

Brake linings have been reduced to five thicknesses, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$ inches, and the widths vary from 1 to 5 inches, up to 3 inches by $\frac{1}{4}$ -inch steps, and above by $\frac{1}{2}$ -inch steps. Usually the three intermediate thicknesses will be sufficient, as the $\frac{3}{8}$ -inch is designed only for very small cars and the $\frac{3}{8}$ for very large trucks. The standard sizes are given in Table 1.

Relining of brakes is work that comes to every repairman at some time or an-

other and the action of the S. A. E. in reducing the number of different sizes of brake lining which must be carried in stock is a long step in the right direction. When these standards shall have been widely adopted by car manufacturers, which will be the case in time, the amount of the repairman's capital tied up in stock of this kind will be proportionately reduced and the delay incidental to getting some special size for a particular car will be eliminated.

Cotter pins are to be made in seven diameters and various lengths, and the total number for all classes of work has been cut to 41. Table 2 gives the various sizes.

Cotter Pins Reduced to Forty-one

Perhaps no one knows better than the repairman the great variety that exists at present in cotter pin diameters and lengths. For this reason cotter pins of a size not suitable for the work they have to perform often are used for the lack of a pin of the right size. The most flagrant abuse is the use of a pin that is too small, too thin in section. And this is another evil that is removed by the adoption of these standards. The number of different sized cotter pins required gradually will be cut down until the 41 that are listed in the accompanying table will suffice for every need of the repairman.

Standard carbureter flanges may now be had from the very smallest to the very largest, as the former limits have been extended to include $\frac{1}{2}$, $\frac{5}{8}$ and $2\frac{1}{2}$, 3 and $3\frac{1}{2}$ -inch models. It is now possible for a man to buy a carbureter from a dealer, providing he has a standard flange on his car, and attach it without any fitting, thus avoiding considerable trouble and expense.

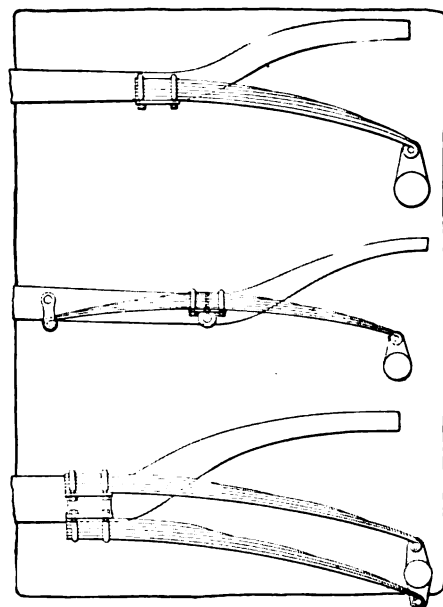


Fig. 2—Three types of cantilever springs whose names have been standardized to avoid confusion. Upper—quarter-elliptic cantilever; middle—half-elliptic cantilever, and lower—double-one-quarter-elliptic cantilever

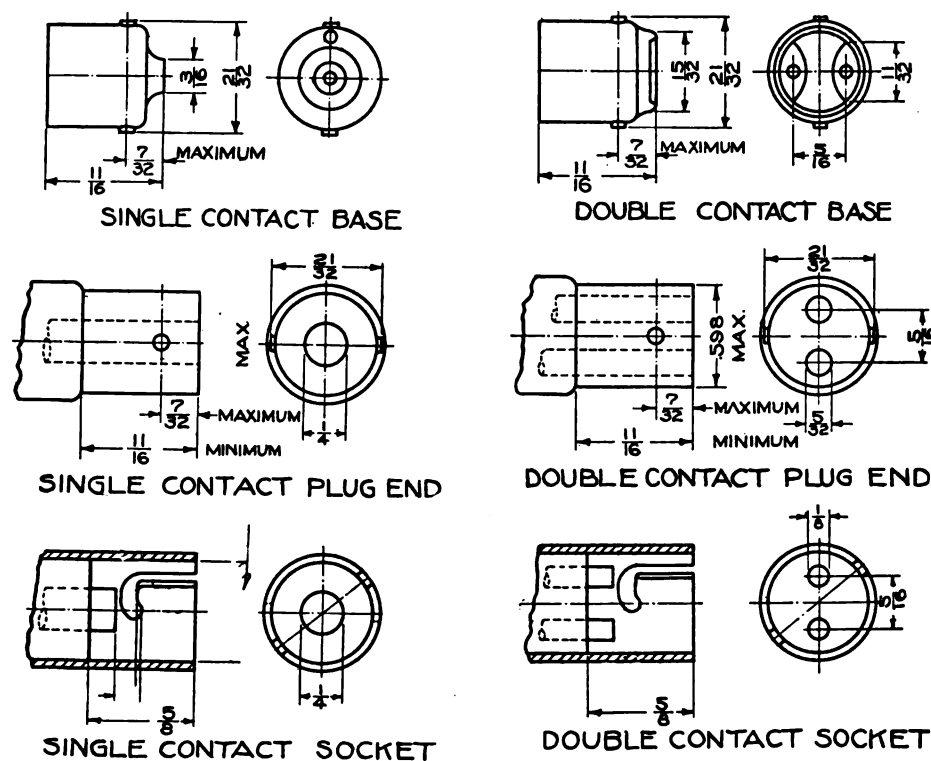


Fig. 3—Standard dimensions for lamp bases, plug ends and bulb sockets, both for single and double contact. The principal dimensions are given in each case. The adoption of these standards will eventually result in a considerable reduction in amount of stock required

Heretofore it has not been possible easily to make an exchange of this kind. More or less machine work has been necessary and aside from the expense that this means to the owner the accompanying delay must also be taken into consideration. The standardization of carbureter flanges likewise opens up a field for the supply dealer. It makes possible for him an active campaign for the sale of carbureters. If an owner knows that a new carbureter can be substituted for the one he is using without much labor and at little expense he is that much more likely to purchase one for his car.

Cantilever Springs Officially Named

Nomenclature of various types of cantilever springs has been standardized; the ordinary quarter-elliptic is known as quarter elliptic cantilever; the common cantilever as a half-elliptic cantilever, and a third type as a double-one-quarter-elliptic cantilever. The three types are shown in Fig. 2. From now on there should be no confusion in describing these three types, an important point when talking to a prospect.

The adoption of this standard nomenclature gives the car dealer an excellent opportunity to make plain to the prospective purchaser the exact meaning of the various terms that are used in describing springs. It might be a good plan for the dealer to have an enlarged photographic print made of the illustration which appears here. This could be

framed and placed in a conspicuous place on the salesroom wall.

The standard test of parallelism of spring eyes should be of interest to the man who is repairing a broken or bent spring. The test is made by inserting an iron bar in the spring eye, as shown in Fig. 3. At a distance of 18

inches from the spring this bar should not be more than $3/32$ from the perpendicular.

This is a standard that can be put to work immediately by any repairman or garage proprietor and it has an advertising possibility that may perhaps have

STANDARD BRAKE LININGS

Thickness:	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{4}$
Width: 1.....	x	x	x	..	..
$1\frac{1}{4}$	x	x	x	..	..
$1\frac{1}{2}$	x	x	x	..	..
$1\frac{3}{4}$	x	x	x	x	..
2 .....	..	x	x	x	..
$2\frac{1}{4}$ .....	..	x	x	x	x
$2\frac{1}{2}$ .....	..	x	x	x	x
$2\frac{3}{4}$ .....	..	x	x	x	x
3 .....	..	..	x	x	x
$3\frac{1}{2}$ .....	..	..	..	x	x
4 .....	..	..	..	x	x
$4\frac{1}{2}$ .....	..	..	..	..	x
5 .....	..	..	..	..	x

Note: Width limits .1/16. All dimension in inches.

TABLE 1.

been overlooked. The wideawake repairman might have a large sign made which would advertise the fact to his customers that S. A. E. standard method of testing the parallelism of spring eyes is used exclusively. The method is so simple and the results so accurate that few persons would fail to be impressed by the possibility.

A First Stock

Page 5

Table 2—Cotter pin sizes. They are made in seven diameters, varying from 1/16 to 13/64 inches, as shown by the second line. The corresponding B. W. gage and the drill hole number are given in the first and third lines, respectively. The length of shank varies from 5/16 to 3 inches for the various diameters, as indicated by the left column

B. W. Gauge		13	12	11	10	8	6
Nominal Diameter	$\frac{1}{16}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
No. Drill for Hole	48	36	30	28	21	11	2
Length of Shank:							
$\frac{1}{16}$	x						
$\frac{1}{8}$	x						
$\frac{1}{4}$	x	x					
$\frac{1}{2}$	x	x					
$\frac{3}{4}$	xx	x					
1		x	xxx	x			
1 $\frac{1}{4}$		x	x	x			
1 $\frac{1}{2}$		xx	x	x			
1 $\frac{3}{4}$			xx	x	xxx		
1 $\frac{7}{8}$			xx	x	x		
1 $\frac{15}{16}$				x	xxx		
1 $\frac{1}{2}$				xxx	x	x	
1 $\frac{3}{4}$				xx	xx	x	
2					xx	x	x
2 $\frac{1}{4}$					xxx	xx	x
2 $\frac{1}{2}$						xx	xx
2 $\frac{3}{4}$							xx
3							xx

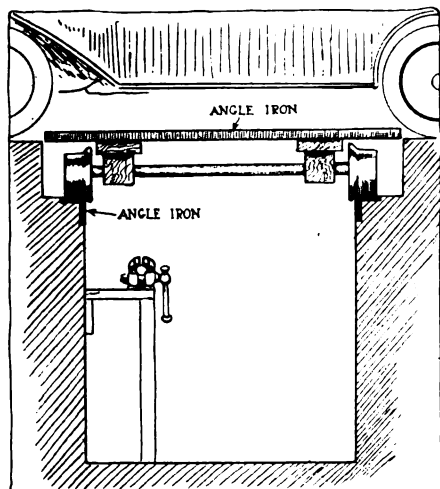
NOTE: x=Short series.
xx=Long series.
xxx=Arbitrary sizes.

REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Repair Pit for Several Cars (No. 215)

A long repair pit capable of accommodating several cars at once has many advantages over the single pit. It allows a mechanic to go from one car to another with ease, gives him more room to work in, can be kept cooler and better ventilated, and is more satisfactory all around. With a pit of this type the only problem is to get the cars in place over it, and this is easily solved by having a pair of channel steel guides mounted on a truck or car which runs the length of the pit. This car may be brought to any position in a moment, the front wheels of the automobile run across the pit and the truck pushed out of the way. The truck is provided with flanged wheels which run on angle iron tracks imbedded in the cement in the

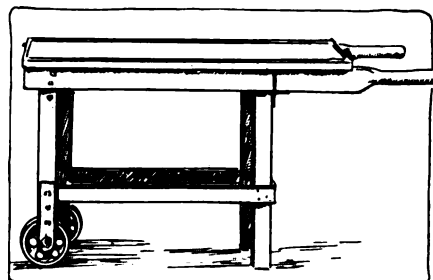


(No. 215)
Long repair pit with movable bridge

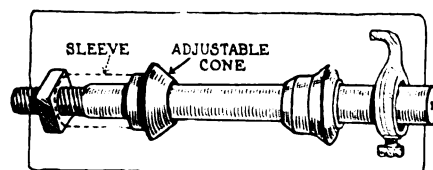
sides of the pit. A work bench running the length of the pit is an added convenience.—T. M. Lewis, Overland Cleveland Sales Co., Cleveland, O.

Portable Motor Repair Stand (No. 216)

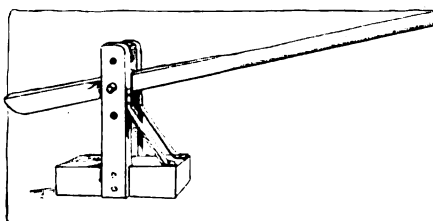
Here is a handy motor stand which is easily moved. The handles are hinged and drop out of the way.—H. B. West, DeWeese Auto Garage, Lima, O.



(No. 216)
Portable motor stand with hinged handles



(No. 217)
Lathe mandrel with centering cones



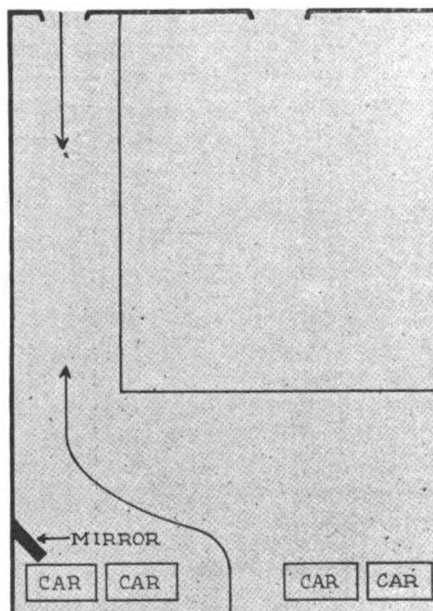
(No. 218)
Quick-acting jack with adjustable bar

Quick-acting Wooden Jack (No. 218)

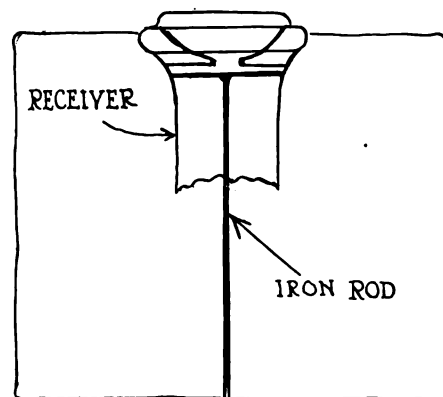
A quick-acting jack can be made of a wooden stand and a long lever pivoted to it, the short end engaging the car axle, or frame. The jack shown can be adjusted to three different heights by changing the position of the pivot pin.—W. C. Huber, Fireproof Garage, Dayton, O.

Seeing Around a Corner (No. 219)

A mirror enables drivers to "see around a corner" in the Rauch & Lang Garage, Cleveland, O. The entrance to this garage is a long passageway at one side of the building and a driver in the main aisle would have no means of ascertaining whether or not there might be a car entering were it not for this mirror.



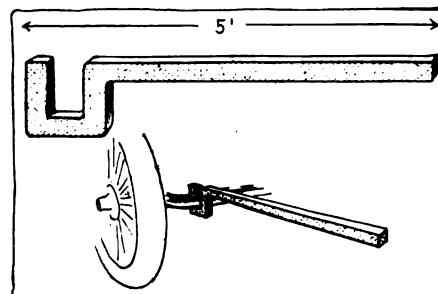
(No. 219)
Seeing around a corner through a mirror



(No. 220)
Stethoscope for locating motor knocks

Motor Knock Detector (No. 220)

For locating motor knocks there is probably nothing better than the stethoscope shown, which is made from an old telephone receiver and a long iron rod which is soldered to the diaphragm.—Fred Durnwald, Palace Garage, Fremont, O.



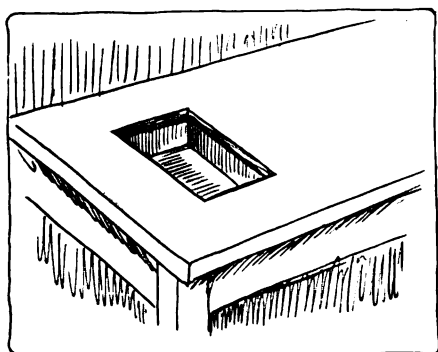
(No. 221)
Handy tool for straightening front axles and similar parts.—B. S. Smith, Electric & Auto Co., Lorain, O.

Handy Sink for Cleaning Parts (No. 222)

For cleaning parts a sink built into the work bench will be found of great convenience. It may be made of sheet metal and should be provided with a stopper or drain plug. Every morning it is filled with kerosene or gasoline, and it is then ready for the day's work. In the evening the fluid is drained, allowed to settle and by morning is clean enough to be used again.—T. M. Lewis, Overland Cleveland Sales Co., Cleveland, O.

Reboring Ford Cylinders (No. 223)

Ford cylinders may be rebored on a drill press by making a special cutting tool for the purpose. The tool is mounted in the spindle the same as a drill and the cylinder block is rested on the table. The cutting part of the device is shown at A, while parts B and C are for centering. First the boring bar alone is placed in the spindle then the bushing C is put in position and the table is moved one way or the other until the boring bar is an easy fit in the bushing. This is an important detail, as this bushing later serves as a bearing for the bar. Then the slightly conical member B is attached. One edge of this part is

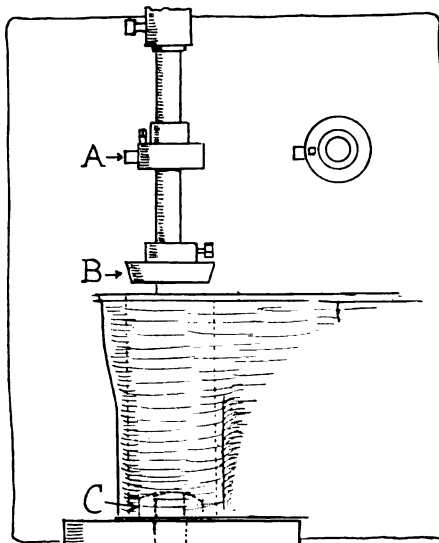


(No. 222)
Cleaning-sink let into work bench

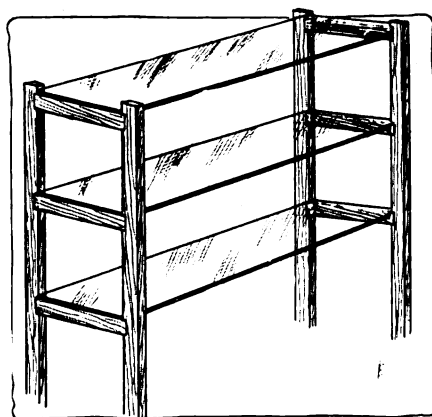
somewhat smaller and the other is as much larger than the Ford cylinder bore. The cylinder casting is now put in place with the crankcase end up, and by means of this cone the first cylinder is centered. When this is accomplished the block is bolted fast to the table and B is removed. The boring member A is then brought down into position and the tool adjusted to take the depth of cut desired. The tool must be far enough up on the boring bar so that the lower end of the bar rests in the bushing C. This instrument is also adapted for work on other motors with detachable cylinder heads.—Orville Hauser, Chillicothe, O.

Glass Shelving for Stock (No. 224)

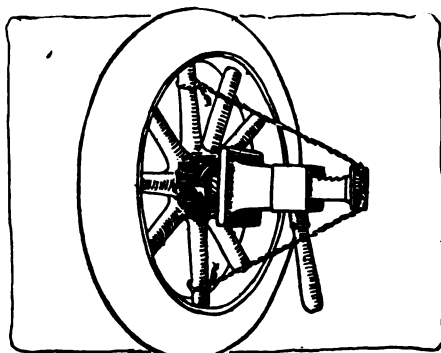
Attractive yet simple shelving for displaying accessory stock can be made by using a wooden framework and plate glass shelves. Vertical members about 2 x 3 inches are used, and cross members are fitted to these to hold the shelves. The glass shelves should be fitted into notches or rabbets so there will be no danger of their slipping out.—Henry J. Adams, Fostoria, O.



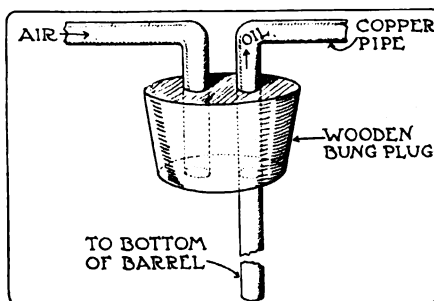
(No. 223)
Details of simple cylinder reboring tool



(No. 224)
Glass shelving for an attractive display



(No. 225)
Using jack and chain as a wheel puller



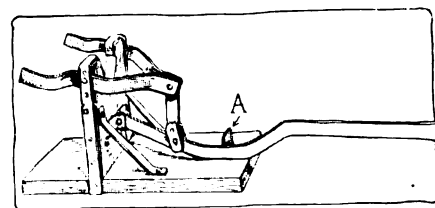
(No. 226)
Air-pressure system for transferring oil

Oil Transferring System (No. 226)

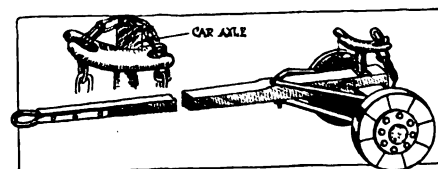
For rapidly transferring oil from barrels to storage tanks there is nothing more simple and efficient than compressed air when used in connection with the special bung shown. This bung carries two 1/4-inch copper pipes, one of which is for entering air and the other for the oil discharged. The discharge pipe goes to the bottom of the barrel and the air pipe terminates just within the bung. The pipes are a tight sliding fit in the bung. About 5 pounds air pressure is sufficient to cause the flow of the oil at a rapid rate.—Wm. Folberth, Folberth Auto Specialty Co., Cleveland, O.

Quick-acting Ford Jack (No. 227)

A quick-acting jack for raising Fords is shown herewith. There is a substantial base for stability, and a long lever so that the car may be lifted without much effort. The hook A engages the handle automatically and thus holds the axle off the ground. The double construction of the lifting bar gives good support to the axle and prevents side swinging of the car, when jacked up, unless more than ordinarily hard pressure is applied tending to tilt it. All the parts should be substantially made.—O. J. Hayes, Auto Inn, Chillicothe, O.



(No. 227)
Quick-acting double jack for Fords



(No. 228)
Substantial truck for towing cripples

Heavy Truck for Towing (No. 228)

For towing disabled cars the substantial truck shown has been found to be particularly well adapted. The wheels are about 12 inches in diameter and about 2 1/2 inches wide. They are made of hard wood with the grain placed radially and are bound by iron rims made out of 1/2-inch stock. Regular automobile truck hubs fitted with Timken bearings were used, and an old truck axle was cut down for this purpose. The result is a very strong and easy running truck. The pole of the truck is strongly braced. A heavy cast iron bracket for carrying the axle is mounted at the center and this is provided with a short chain for holding the axle firmly in place. The end link of this chain slips into a notch in the bracket and there is a bolt on the other end to draw it tight.—Smith & Schumann, Fostoria, O.

Few Agree On Show Month

Analysis of Vote to Date Reveals Surprising Lack of Unanimity of Opinion—Widely Differing Votes from Same Cities—Send in Your Vote

ONE HUNDRED AND SIX dealers from various sections of the country have voted on the question, "What is the best month in which to hold the local show?" which appeared originally in the August 11 issue of Motor World.

An analysis of the vote to date reveals that there is a surprising lack of unanimity of opinion regarding the question even among dealers located not only in the same section of the country but also in the same city.

Where more than one vote has been received from any particular city there are only two instances where two dealers have chosen the same month. These two cities both are in the East, one being York, Pa., which votes for the month of January, and the other being Brooklyn, N. Y., which votes for the month of February.

Obviously this vote does not represent the consensus of opinion of the dealers of any of the cities which are given in the table herewith, though the table does serve to illustrate the wide diversity of opinion. It also serves to bring into greater prominence the real need of dealers getting together and thoroughly threshing the question out among themselves before definitely deciding on any particular month.

Following are some of the reasons that influenced those dealers who have voted to choose a particular month.

JANUARY

G. A. Willey, Philadelphia (Paige), says: "It is advisable to hold the annual show following the one in New York. The month I favor is January. It is the logical time, as everyone is prepared for getting business and because of that time buyers are somewhat more in evidence."

F. W. Bowman, Minneapolis (Overland), says: "In the fall the farmer has no time to buy cars and March is too late for him. In January the farmer has time to buy automobiles and visit the show. All the dealers have time also to visit the show. It would be better if the new models would come out early in the year. Production should be cut off no later than November and new models put out in January at the time of the show. Most of the factories start models in July, so that now when the show is in January or February the people see only the same stuff they saw in the summer."

John Bayne, Philadelphia (Chalmers), says: "The New York show has always had a greater or lesser influence on Philadelphia. Therefore, the right time to hold the local show would be in January, following that in New York. January is a good time and I firmly believe it stimulates business between seasons. A fall show has nothing to do with new models. This year the new models are earlier than ever. Furthermore, the

DEALERS WHO VOTED THIS WEEK

JANUARY
L. H. Blaney, Wells Garage Co. Milwaukee
I. A. Murphy, Russel M. C. Co. Cedar Rapids, Ia.

JANUARY-FEBRUARY
W. L. Johnson, Johnson Auto. Co. St. Louis

FEBRUARY
Geo. Weber, Weber Imp. & Auto Co. St. Louis

MARCH
Jas. A. Lattner, Lattner Bros. Cedar Rapids, Ia.

show in January is an excuse, rather than a reason, for buying after Christmas. Not many make a practise of buying cars as presents. Those that do represent the exception. I still think January the best time."

A. C. Rose, Hartford, Conn. (Cadillac), says: "There was a time when we got new models late in the winter, but now the season for most manufacturers begins in June or July, and by early fall, September or October as a rule, the full line of cars is ready for the market. Therefore I think the show should be at the beginning of the season rather than towards the end. The greatest advantage of an autumnal show comes from the position it puts one in to sell enclosed cars, as probably 75 per cent of the closed cars are sold before January 1. As soon as all models can be shown the exhibition should be held, which would be September or October. I believe in the autumnal show. The way the shows are held now it is like trying to boom sales after the season is half over. To get the full benefit from a show it should be at the beginning of the sale of the new models. When the show is held in the early spring the public has become familiar with nearly every model on the market and prospects have visited nearly every salesroom; the show does not appeal to the buying class as much as it would if everything were new to it. It is almost impossible to do justice to the demonstration of cars in the winter. The time to catch a prospect is when he is interested, and if it is impossible to give

ANALYSIS OF VOTE TO DATE FOR BEST MONTH TO HOLD LOCAL SHOW

	Jan.	Jan.-Feb.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.
Albany, N. Y.	1					1	1	
Akron, O.								1
Baltimore	6			2	2			
Berea, O.	1							
Bloomington, Ill.			3	1		1	1	
Boston			1	5				
Brooklyn, N. Y.			2					
Cincinnati						1		
Cedar Rapids	1			1				
Clarksburg, W. Va.	1							
Cleveland	1							
Columbus, O.	4		1			1		
Denver					1			
Detroit	2	1				1		
Grand Rapids			1					
Harrisburg, Pa.			2	2				
Hartford			1	1	2	1	1	1
Hawley, Pa.	1							
Ida, Mich.	1							
Kansas City							1	
Louisville, Ky.			2	1	2			1
Milwaukee	5			1				
Minneapolis	2		2	1		1		
Montreal	1							
Philadelphia	7					1		
Pittsburgh			2	1		3		
St. Louis		1	2			1		
Stamford, Ct.							1	
Syracuse			3					
Waupun, Wis.	1							
York, Pa.	2							
Youngstown, O.	1							
Total	38	3	22	16	7	12	5	3

demonstrations at that time he is liable to change his mind before you are able to give the demonstration. If the show is held in March the dealer loses the full benefit towards closed car sales. By all means have the show in September or October, October preferred."

E. R. Myers, Baltimore (Overland), president of the Baltimore Auto Dealers Association, says: "We found that the latter part of January suited us best. It brings the dealers and purchasers to us at a time when things are dull. It awakens a lot of enthusiasm at a time when it is needed. There is a big rush and it makes business for the month of February. During February we are pushed to handle the prospects and to get them out of the way before the big spring business breaks on us. The January time show supplies the needed cooperation and stimulates trade. I don't believe the sale of closed cars amounts to 5 per cent of the business and therefore I don't favor holding the show at a time when that particular model as the aim would do the dealers as a whole much good."

G. M. Wetmore, Detroit (Saxon and Paige), says:

"January and February; in fact, the first three months of the year, are the best for the shows, because during that time people in gen-

You

have not voted yet. Motor World wants your vote on this question. With your vote send a letter setting forth your reasons for choosing the particular month you favor.

Remember

This is a vote for the month in which to hold your LOCAL SHOW—not the National events in New York and Chicago.

Vote Here—Tear Out—Mail

Motor World, 1915
239 West 39th St., New York
I am in favor of holding the annual show in the month checked.

☐ SEPTEMBER
☐ OCTOBER
☐ NOVEMBER
☐ DECEMBER

☐ JANUARY
☐ FEBRUARY
☐ MARCH
☐ APRIL

Signed

Position

Company

Address

eral have more time to interest themselves in automobiles. Later, when a good many people have already bought cars and the dealer begins to be busy, the dealer does not care much for having his time taken up with the show. Announcements of new models should be made at the show, as when they are made as at present they create a disturbance for the dealer. Many people hold back from buying at the present time because they expect some announcement by some company from which they have not yet heard. Some people also who have made up their mind to buy a certain car are often led to believe that this time of the year that the manufacturer of the car in which they are interested and who has not yet made an announcement is about ready to do so."

W. E. Wheeler, Minneapolis (Chandler), says:
"January is the only time of the year when the dealers can get into the show and spend time looking it over. In January or the early winter is the time for the factories to bring out their models. By bringing them out in June, July, August or September the whole game is upset. That is what did it last July more than anything else. They should have the windup in the fall and the year should start with the first of January."

Jesse A. Smith, Milwaukee (Hudson and Detroit Electric), secretary of the Milwaukee Automobile Dealers, Inc., says:

"It would be inconsistent for me to advocate anything but a January date, as our association has for several years and will no doubt for many years more choose the second or third week in January. I think, however, that a big show in March or April would be best. The spring of the year is the time to get customers interested and closed up. The exhibits stimulate interest and concentrate the minds of prospects on their next buy. The progressive show we held last April was a crackerjack on results—actual sales. I am voting for January, but I can see readily that a show late in March or early in April would be as good or better."

C. C. Starkweather, Detroit (Buick), says:
"I favor January. At that time people in general are not so busy after the big holiday season. It is also the time when the dealer's own business allows him more leisure and thus he is willing to spend that time for show purpose. Once the selling season has started the dealer is too busy to think seriously about shows. January is also advisable because the farmer has more time to spare then. As the farmer is one of the most important elements in the matter his position should be considered."

FEBRUARY

B. M. Ellis, Columbus, O. (Hudson), says:
"The best time is February. By holding shows at that time it gives the people a chance to look cars over, then go home and thing the matter over and make their purchases for spring delivery. The time for making delivery is in March, as the roads are getting in condition at that time and the mind of man naturally runs towards the motor car. I believe that it is wise to hold th show early in the year, and preferably in February."

W. W. Williams, Bloomington, Ill. (Overland, Woods, Dodge and Koehler), Says:

"It would be bad policy to have a show in the fall. I think that February is preferable for many reasons. I personally know of a number of new models that are to be brought out for the New York show and which will not be seen until that time. A fall show would miss the late designs. The demand for closed cars has fallen off greatly in this territory and nearly everyone prefers an open car. This fact also strengthens the arguments in favor of a spring show."

J. A. Walde, St. Louis (Allen), says:

"February is the best month for an automobile show because it is the 'off' month for both dealers and prospective buyers. The prospect has more time to examine a car in this month than any other; he has more time to think of owning a machine and has little else to do; the dealer has more time to spend with a customer in February than in other months. After this canvas I should like to see Motor World start a canvas of dealers' opinions for the best time to announce new prices on automobiles."

E. C. Trott, Bloomington, Ill. (Marion and Stutz), says:

"A fall show would not be popular in Illinois. February is by far the best month. Farmers are busy with their corn shucking up to November and could not be dragged to a fall show. They have no leisure of consequence until after New Years. They then commence to talk automobiles for delivery when the roads open up in March or April. The spring months are the harvest times for the automobile dealers of Illinois."

H. P. Sturm, Clarksburg, W. Va., says:
"I take the position that the problem is a geographical one, to be solved by ascertaining the heavy selling period in the territory affected by the show. In our territory it is a fact that eighty per cent of the cars purchased per year are bought during the period of February to August, and it therefore follows that the most effective date for holding the show is in January or early in February. Inasmuch as the closed car trade does not represent more than five per cent of the season's business, I regard it little short of ridiculous to consider this a factor of importance in determining the proper date for holding the exhibit."

MARCH

M. J. Monson, Milwaukee (Buick), says:
"While I consider the September show in connection with the State Fair our biggest and most important effort, I am strongly in favor of holding the main show of the year late in March, or perhaps early in April, depending upon the outlook for an early touring season. Because of the strong hold the Buick has gained on the rural population of Wisconsin, the State Fair show cannot be excelled for Buick results. This show comes at a time when farmers are cashing in on crops and money is plentiful. The farmer is preparing for his winter, and in the case of the farmer who is an owner he is then ready to make his new buy. For the city prospect an exhibition in March or April is the most attractive, as the period of the greatest usefulness of the car is then at hand. Under any circumstances I feel that the Milwaukee show should follow the big one at Chicago."

SEPTEMBER

L. E. and W. E. Lambert, Baltimore (Hudson), says:

"My brother struck the same month as I did and there was no discussion between us. I favor September because I think that most people are back home from their vacations then and are prepared to talk business, and if a number of prospects are developed one will be kept busy during the so-called dull months of keeping after them. There is no doubt that it will aid wonderfully in the sale of the closed cars, and from our standpoint we think it will bring more business. All country fairs are held in the fall and their success surely proves that crowds can be attracted at the fall shows."

George D. Knox, Hartford, Conn. (Hudson), says:

"The logical time from my standpoint as a dealer for a show would be some time during the month of September for the reason that the show comes as a stimulus in connection with the closing of prospects. We have found in this section that the opening of spring is the biggest stimulus to the prospective buyer because the

effect of the show is lost when it is given just prior to the opening of spring. It, of course, helps to have a show and, given in the fall, the greatest benefit would be realized. It would give us a chance to close fall prospects for early winter deliveries in closed car models and would develop more business at a time when the business is harder to get. A great many prospects will wait for a show at any time during the year provided they know a show is to be given. In my opinion the business of the year would be more evenly divided if it could be stimulated in the fall by a first class show, leaving the spring business to take care of itself. I think if no shows were given in the spring or late winter that a dealer would get more actual business closed up during December and January than he now does."

OCTOBER

Frank Alderman, Albany (Packard), says:
"I am a comparative stranger in Albany and do not perhaps understand fully the local conditions, but I think October is the ideal month for shows. It is cool then and the new models have all arrived and can be demonstrated. To have a show in the winter is not advisable. In the fall the dealer has the time to devote to the business of a show. It would permit him to take orders and make sales at once."

Albert Weber, St. Louis, says:
"I think October is the best month, because the farmer and many other prospects have most time and money during that month. Even if we don't sell it is easy to get a promise in October, and with such a promise to sell the car in the spring. St. Louis shows always have been held in October and all seemed to have been great successes."

Frank H. Cole, Bloomington, Ill. (Hudson), says:

"The suggestion of a fall show makes a hit with me and I hope that it will meet with general approval. The roads are ideal at that period, times are good and everybody is in the mood to buy a car if at any portion of the year. I believe that there are many advantages in favor of October for holding the show and believe that there would be many additional sales if the shift was made."

E. A. Cruse, Cincinnati (Marmon, Maxwell, Mitchell), says:

"The Cincinnati automobile show will be held this year October 2nd to 9th, inclusive. Regarding the proper time of the year to hold an automobile show, will say that the members of our association voted strongly in favor of holding a fall show, and in consequence we set our dates for the same time as last year show. This concludes, therefore, that the Cincinnati dealers feel that under prevailing conditions in regard to bringing new models and the selling of closed cars that the proper time to hold the show is during fall whether it be September, October or November. Personally I feel that fall is the proper time to hold a show, but will concede that it would largely depend upon the issue of new models; for instance, if new models were put out during January and February, the proper time for a show would be soon after this or during these months. This arrangement, however, very seriously interferes with the selling of closed cars, which is a very important feature. The best arrangement we believe would be the issuing of new models in the fall or early in the spring, in order to give the dealer a chance to sell his cars without interruption with spring, summer and fall."

A First Stock

Page 5

WIDE-AWAKE MERCHANDISING

The Accessory Business Under a Garageman's Nose

World of Ideas Will Be Revealed by a Brief Tour of Inspection of Cars Under His Care

The garage proprietor who sells accessories and who doesn't want to overlook any chance to increase that branch of his business, has a fine hunting ground right under his own roof—under his nose, in fact.

Every car in the place offers a possible repository for something that the proprietor of the garage wants to sell and the owner of the car ought to buy; possibly the owner needs but a gentle hint to steer his hand into his pocket, or he may need real-hard pushing. Possibly he may be a blank. But in any case, the garage owner will never know anything about it unless he gets busy and starts something.

A tour of inspection of the cars will in most cases reveal numerous openings for trade. There's a rather good-looking car with nothing better than an asthmatic old bulb horn; jot him down for a modern signal. There's a car with a good enough horn, but a miserable little back-door push-button. The owner of that machine ought to be more consistent; tell him so—diplomatically. That one with the out-of-date electric horn that has an incurable case of weak voice should be better equipped.

New Lamps for Old

Oil lamps on that new little car! It's a cinch the owner will sooner or later switch over to gas or electric lamps—and who's going to get the business? First man up has the best chance. That broken tail light can't be used much longer, and it is too bad to let the owner run the risk of falling foul of the law just for lack of a little reminder.

Here's a Ford that forgot itself and tried to be a battering ram; its fenders are bashed in and the hood is a sight. A fine chance to sell a set of fenders and a good-looking hood—and maybe a radi-

ator as well. And one of the tires is gasping its last. Does the garage proprietor know where the new tire will be bought—or will he merely sit still and never be any wiser about it?

The car with springs that sing like a flock of birds ought to have a set of spring lubricators, or at least a spring spreading tool. No man has any business to drive around with license number plates wired on, like the instruction tag on an oil stove; he needs brackets. An empty tire carrier means an opportunity to sell someone a spare tire and cover—and a car without a tire carrier or spare tire furnishes at least a chance to dispose of a carrier and the wherewith to fill it. How many cars have no speedometers? At least one or two of the owners of them ought to be amenable to reason.

Electrical Equipment Chances

Peek under the hoods. Battered old spark plugs, disreputable priming cocks that have to be turned with pliers, fan-belts that are on the verge of letting go and causing the engine to get hot and the driver hotter, frayed and oil-soaked wiring without terminals that shorts and leaks and ought to be replaced with proper protected and tipped wiring—there must be some chance for doing a little business with some of the people who put up with these things.

Keep a quiet eye on the car owners themselves, and get your men to make little reports along the same lines. There's a man who is always borrowing wrenches; heaven knows he needs a set of his own. His neighbor's specialty is borrowing a tire pump. What he needs is a real good pump, and maybe he will be game for one of those handy little engine-driven affairs that are so easily installed. That chap who is always looking for things with matches is a menace

to himself and the garage, and he ought to be forced to buy an inspection lamp.

Discretion is necessary, of course, in working along such lines as these. You can't nail a man with, "Why don't you quit borrowing tools and buy some from me?" It is necessary to be diplomatic and not offensively persistent—to work through suggestions carefully timed and effectively delivered, verbally or in writing. If a man can be caught at the moment when his need is fresh in his mind the battle is half won.

SELL YOURSELF TO PROSPECT AND REST IS EASY

First sell yourself to the prospect, and selling the car will be comparatively easy. In other words, win his confidence so that he will believe what you say. One salesman, who has pursued this policy, finds it best to start on a new prospect by telling him that all the cars he is considering are good, and which he purchases is largely a matter of personal taste. His candidness usually wins and the prospect is then ready to believe what he has to say about his car.

This salesman admits a defect when he sees one and thus rises in the customer's estimation. For example, a man recently asked him if he did not think the car would be better if the mud pan were removed and only the spaces between motor and frame closed up, thus leaving the crankcase accessible. This the salesman agreed upon, and a moment later when he was showing the prospect some of the good points, the latter did not question the statements made even in his own mind.

SOME MOTORISTS ARE THIRSTY!

Why not free water as well as free air? Of course, no garage really charges for water, but yet there are few, if any, where water for the car, as well as air, may be obtained at the curb. To carry this idea still further, a drinking fountain placed directly in front of the garage would be a great boon to trade. Certainly, hot and dusty tourists with parched throats would greatly appreciate it and besides there would be many townspeople that would also make use of this fountain, and indirectly the business would be advertised and sales would result thereby.

Garage Service

Few Persons Realize the Service the Garageman Gives Them

By Robert Foster

There is one sort of service that every owner who stores his car in a garage receives, yet rarely does he appreciate the value of it. That is, the service the garageman renders in an advisory way. Every owner talks over his troubles with the garageman; when he is thinking of doing anything to his car he goes to the garageman for advice; in other words, the garageman is general supervisor over his car but gets little credit for the important service he renders every day.

Defective Brake Pointed Out

The other day my office boy called my attention to a missing service brake rod pin when my car was standing in front of the office door. I believe that his alertness saved my life, or at least delivered me from a bad smashup and I gave him \$2 as a reward. There is a very steep hill on the way home from the office and the emergency brake is so badly in need of adjustment that with the service brake out of commission I do not believe I could have kept the car under control.

Garageman an Inspection Bureau

On my way home I began thinking if there was not some simple way of preventing such accidents as these, and it occurred to me that the garageman really should maintain an inspection service at a nominal charge just to guard against such mishaps. Then it dawned on me that my garageman had been doing this very thing for months, and I had never even thanked him for it. He had called my attention to a loose spring clip some months ago that might have caused trouble, and another time he showed me a loose rear hub cap which might have come off on the road and allowed the axle shaft to slip out and possibly catch in a passing car.

What Garageman Had Done

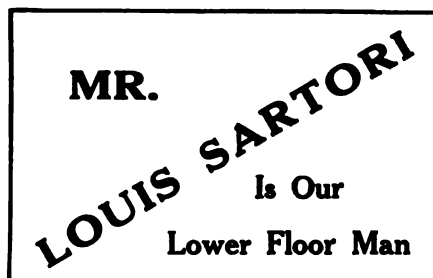
Then I began to think of the 'other things he had done for me; how he had advised me on the best adjustment for my carbureter; and how he had called my attention to the wheels being out of line, thus preventing many dollars tire wear.

In view of all these services it made me feel cheap when I thought of how I had sent to a mail-order house for a set of shock absorbers, and how I had bought a couple of spark plugs at a cut-rate house downtown just to save a

few cents. One good turn deserves another, and hereafter I am going to do all I can to reciprocate.

MAKING KNOWN THE NAMES OF SALESMEN

A sign placed in a conspicuous place in the garage of the A. H. Wilson Motor Car Co., Canton, O., tells every cus-



This is one of the cards used by the A. H. Wilson Motor Co. to make known the names of its various representatives

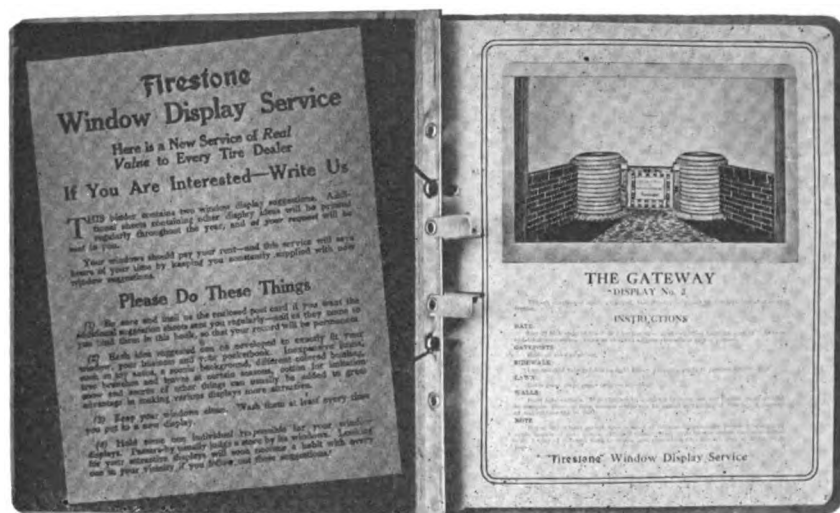
tomer who is in charge of this floor; it is a little piece of thoughtfulness that saves time, mistakes and misunderstanding. A similar sign announces that "Mr. T. Waltenbaugh, better known as Jap. is our stock man," and another one conveys the information that "Mr. Earl Frankz is our inspector."

Forced Sales May Be Bad

A sale that is forced is likely to be unsatisfactory. An if-you-don't-like-it-you-can-bring-it-back policy is a poor way to increase sales. It is better to give the best selling arguments you know and stop at that.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith and this will be followed by others which have been especially designed for the purpose of assisting the dealer in bringing his merchandise to the attention of possible purchasers. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



The work of thinking up and then presenting good window display ideas is not always easy, though the Firestone Tire & Rubber Co., Akron, has gone a long way toward making it easier for its dealers. It is furnishing a binder like that illustrated, and at regular intervals each dealer

A COLOR SCHEME WILL ADVERTISE

Why Not Buff Garage With Everything Finished Buff

A color may be advantageously used to advertise a business just the same as it advertises many colleges. Who is not familiar with Yale blue? For advertising a business, buff will do very well to show how the idea is worked out, although there are many other colors suitable.

The Buff Garage would be the name of the business, and true to the name, the color buff would be used wherever possible. The showroom would be finished in various shades of this color, and the rugs would be to match. The wrecking car, and the delivery car, if the accessory business warranted, would be buff. All stationary would be of this color; envelopes, letter heads, bill heads, business cards, circulars, etc., would all be included under this head.

The effect of using a color in this manner would be cumulative from an advertising standpoint. Each time a person came in contact with the color the name of the business would be a little more firmly impressed on his mind until it would finally become the best advertised business, and the one he would unconsciously think of when the words automobile, garage, accessories, etc., were mentioned to him.

receives a printed window display idea which can immediately be set up at little expense and with the stock on hand. The ideas are bound in the binder as they are received and thus form a permanent record for future reference. There are complete instructions for each window.



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The First Stock

The TWENTY-FIRST instalment of Motor
 World's Campaign for Greater Profits.

STARTING to build up an accessory stock may be done in two ways. The garageman or dealer may begin by adding article by article as the demand is made by customers. Or the garageman, who has comparatively no stock, may buy what he believes is essential as an initial equipment and then add to it.

The latter way is the quickest way, but the question for the novice in accessory merchandising is what to stock—and how much. An answer to this question appears on page 5. A jobber, who has had much experience in distributing accessories to garagemen, has made up a sample order—a first order.

It has purposely been kept down low in quantity, because for the beginner it is better to buy too little than too much. The wholesale prices are given from this jobber's catalog, but the total value would not vary greatly if bought from any reputable wholesaler.

See how much of this order you have in stock. It is goods that the motorist needs and may buy if he sees them displayed in your place of business—but if they are not to be displayed they had better not be put in stock, for they will become a dead loss.

The Stripped Chassis

THE dealer who plans to exhibit at a show—and the manufacturer also—should consider showing a chassis. There is nothing which is of greater interest to the public. Whether supplemented by a lecturer or not the chassis is always a center of attraction.

This has been proved many times in shows in the past and will again be demonstrated this winter.

The outside of a car is built to present an attractive ensemble. The inside shows details, something for study. Also, the average man likes to make himself better informed on the so-called mysteries of cars and therefore delves into the machinery. Will this chassis bring any material result? The answer is: The exhibit is made to attract the public. If a chassis makes the exhibit a greater attraction the end is served.

Impertinence?

WITH what is presumed to be perfectly good faith, one of New York's daily newspapers has taken upon itself the task of advising the best method of distributing the farm tractor which soon is to be placed on the market by Henry Ford. "Give to the country editors the chance to make for themselves the enormous profit that will come to those that sell your tractors to the farmers," says this paper in a piece of editorial advice addressed to Mr. Ford.

The thought, or inference, or whatever it may be, that Mr. Ford, who, better than anyone else in the industry has solved the distribution problem, may need advice or a suggestion of the kind pales into insignificance before the thoughtlessness of the advice.

That the intelligent handling of automobiles, pleasure or otherwise, requires special training, a merchandising mind, would seem to have been overlooked. As a writer of editorials and a wielder of the blue pencil, the country editor is justly deserving of all the credit he so seldom gets. But it is greatly to be feared that as a merchandiser, a salesman, a complete organization in himself capable of dealing with the intricacies of the retail automobile business, he would not shine even in the glory which the New York Evening Journal would reflect upon him. The only claim to mechanical knowledge or ability, so necessary in the motor car business, that the average country editor possesses is his ability to saw a piece of boiler-plate in a miter box without cutting his thumb.

Look High; Reach Low

BEYOND question, lofty deals and high aspirations are deserving of unstinted praise. An old saw has it that "He who jumps for the moon goes higher than he who stoops for a penny in the mud." But the old saw has its weak point, when looked at with modern eyes, for while it is incumbent upon a business man to rise as high as he can in his own line, he would be foolish to overlook any pennies that might lie between him and the pinnacle of his ambition. Picking a few pennies from humble places and putting them together enables a man to make big, moon-like dollars. In other words, in looking for opportunities to do business, look nearer home first and gather in all the neighboring pennies before casting calculating eyes upon the distant prospects.

Michigan Registrations Take Tremendous Jump

**Cars Registered First Half of 1915 Are
20,000 More Than for Whole Previ-
ous Year—Ford Heads List
With Buick Next**

DETROIT, September 8—More than 20,000 more cars have been licensed in the State of Michigan during the first half of 1915 than during all of the year 1914. The total at the end of last June was 96,368, whereas the total for 1914 was 76,322.

As is naturally to be expected when it comes to cars themselves, Ford heads the list with a total of 37,279 to its credit. Buick takes second place with 6,624, followed by Overland with 6,224, Studebaker 4,270, and Reo 4,230. Among the commercial cars the International Harvester Co. heads the list with 324, followed by the G. M. C. with 259, the Federal 228. Among the electric passenger cars the Detroit electrics lead with 618, then come Rauch & Lang with 165, Grinnell with 146, Baker with 108 and Woods with 104.

In making the count cars registered to the residents of Canada or of other states than Michigan were not considered, the intention being to show as nearly as possible the cars in the State of Michigan under Michigan ownership. For this reason there is a difference of 2,106 cars between the Motor World count and the record of the Secretary of State of Michigan, which shows a total



H. E. SLAGLE
Paige, Frankfort, Ind.

District Representatives

XXIV

This is No. 24 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

H. E. Slagle is district manager for the Paige-Detroit Motor Car Co., with headquarters at Frankfort, Ind. He entered the industry as a racing driver in 1910, driving Cutting cars with Geo. Clarke as a team mate. In November of that year he met with an accident and decided to quit racing. He then became affiliated with the Buick Motor Co. in Chicago, where he remained until July, 1911, when he joined the Apperson Bros. Automobile Co., Kokomo, as Indiana salesman. He left this company in October, 1912, to take the position he now holds. His territory includes Indiana, Ohio, West Virginia and parts of Pennsylvania and Kentucky.

of 98,474 licenses to have been issued up to June 30.

During several months the State Department did not mention on the license lists whether the car was a commercial vehicle or one for passenger service. This is one reason why all Ford, Studebaker, Overland, Buick and several other cars of which there are both commercial and passenger models, were all recorded as passenger cars.

Reo Declares Extra Dividend

LANSING, MICH., September 8—In addition to the regular quarterly dividend of 2½ per cent, the Reo Motor Car Co. will pay an extra cash dividend of 12½ per cent October 1, to stockholders

of record September 30. The stockholders of the Reo Motor Truck Co. will be paid a cash dividend of 10 per cent on the same date.

San Francisco Branch For Hyatt

DETROIT, September 8—The Hyatt Roller Bearing Co. will open a new service branch in San Francisco at 366 Golden Gate avenue. This will be the ninth Hyatt service branch now in the country, the others being located in Atlanta, Boston, Detroit, Los Angeles, Minneapolis, Chicago and New York.

Detroit Leases Wolverine Plant

DETROIT, September 10—The Detroit Motor Car Co., which succeeded to the Briggs-Detroit Co. and has been occupying the Briggs plant, has leased the plant which at one time was the home of the Wolverine Mfg. Co. Within a few weeks it is expected that the 1916 models will be ready for formal announcement.

Remy Branch for Atlanta

ATLANTA, GA. September 10—The Remy Electric Co., Anderson, Ind., has established a fully equipped factory branch service station in this city at 14 West Harris street.

Buffalo Branch for Sewell Wheel

DETROIT, August 28—The Sewell Cushion Wheel Co. has opened a Buffalo branch with A. W. Sewell in charge. It is stated that another is to be opened in St. Louis.

Rawle Driggs-Seabury Director

NEW YORK, September 9—J. W. Rawle, for many years associated with the Bethlehem Steel Co. and at present vice-president of the J. G. Brill Co., has been elected a director of the Driggs-Seabury Co.

MICHIGAN REGISTRATIONS FIRST HALF OF 1915

Total number of cars registered.....	96,368
Passenger gasoline cars.....	91,683
Commercial gasoline cars.....	2,499
Total all gasoline cars.....	94,182
Electric passenger cars.....	1,552
Electric commercial cars.....	111
Total all electric vehicles.....	1,663
Total number manufacturers' and dealers' cars.....	523

TOTAL REGISTRATION OF CARS PER MONTH

Gasoline Cars.

	Jan.	Feb.	Mar.	Apr.	May	June
Passenger	25,343	9,691	22,262	17,942	9,419	6,987
Commercial	1,259	170	304	362	248	156
Foreign	20	3	6	5	..	5
Total	26,622	9,864	22,572	18,309	9,667	7,148

Electric Vehicles.

	Jan.	Feb.	Mar.	Apr.	May	June
Passenger	1,219	93	118	56	44	22
Commercial	98	6	..	5	1	1
Total	1,317	99	118	61	45	23

Different Makes of Cars

Total number makes.....	390
Different gasoline passenger cars.....	239
Different electric passenger cars.....	24
Different gasoline commercial cars.....	102
Different electric commercial cars.....	7
Different foreign gasoline cars.....	18

The RETAIL NEWS

EAST

Shaw Motor Co., Connellsville, Pa., will build a garage, 45 x 160 feet, at a cost of \$10,000.

J. J. Carson, Bowling Green, O., has leased his garage on North Main street to Ed Ferris, Ed Amos, Charles Bascom and Fred Austin, who will continue to operate it.

Charles Rice has started the erection of a garage on East Green street, Hazleton, Pa., with a capacity of 12 cars. Rice handles the Ford.

E. S. Young, Clarksburg, W. Va., has opened salesrooms at North Sixth street, where the Studebaker is handled.

Charles M. Green, formerly manager of the Philadelphia Motor Tire Co., will open a salesroom on West North avenue, Baltimore, under the name of the Pneumatic Tire & Rubber Co. F. J. Rowe is associated with Green.

James T. Smith, New Bedford, will build a garage, 28 x 36 feet, one and one-half stories high.

The A. W. Haile Motor Co., Buffalo, Studebaker distributor for western New York, has taken over the entire building at 26-28 Goodrich street. The main floor will be a used car department, the second a service department and the third floor will be devoted to painting. The present salesroom in the Main street building will be retained and will be connected with the new building, which is directly back of it, through the old service station.

The Baltimore-Winton Branch has secured a site for a new building at Charles and Oliver streets, Baltimore. The lot is 60 x 150 feet. The building will be modern in every detail and the large rooms will be unobstructed by pillars.

The Poehlmann Automobile Co., Chevrolet distributor, Baltimore, has made extensive improvements in its establishment to provide more room and greater convenience for its increasing business. The entire second floor is occupied by a machine shop.

The Springfield Automobile Top & Upholstering Co., Springfield, Mass., has moved into new quarters at 34-40 Sanford street.

The West End Garage Co., has been formed in Hanover, Pa., by L. W. Mace, G. W. Alexander and W. H. Barnitz. In addition to running a garage and repairshop the company will handle the Pullman.

The Painter-Dunn Co., Pittsburgh, Willys-Overland and Willys-Knight dealer, will erect a three-story fireproof building at Center and Millvale avenues. The building will be of white brick and reinforced concrete with white terra cotta front.

Eugene V. Barthmaier has resigned his position with Orin S. Wilson, Studebaker dealer at Philadelphia, to take territory for the exclusive sales of Studebakers at Norristown, Pa., and surrounding district. Temporary quarters have been established at 318 West Main street during the construction of a modern salesroom and office building at Main and Chain streets.

J. B. Sperry has assumed charge of

the Paige Motor Co. of Rhode Island, formed to handle the Paige in the state, with headquarters at 26-28 Snow street, Providence.

William T. McOwen, formerly with the J. M. Linscott Co., Boston, has gone to Worcester, where he has formed the Worcester Reo Co. to distribute that car in the territory. Salesrooms are at 696 Main street. The Reo was formerly represented in Worcester by E. J. Kehoe.

The Bradford Automobile Co., New Haven, Conn., handling the Paige, has leased the store at 240 George street, two doors above its present quarters, for additional sales and service quarters.

W. T. S. Tribou will build a garage at 246 Arlington street, Wollaston, Mass., 50 x 98 feet, at a cost of \$4,000.

Frederick W. Greene, Jr., and Chales A. Faunce have approved plans for a garage to be built on Arch street, New Bedford, Mass. It will be 26 x 120 feet and contain 11 individual garages, separated by terra cotta fire walls.

Gordon W. Turner, who has been in the automobile business in Boston for many years, has just formed the Turner-Ring Co., with Charles B. Ring, of Springfield. They have opened a place of business at 1118 Boylston street to handle the Ford at retail and will specialize in building commercial bodies for Fords.

MIDDLE WEST

Narveson & Erskine, Grand Rapids, Mich., have opened a garage.

Col. A. L. Maxwell, Lawrenceville, Ill., will open a garage in Princeton for Maxwell cars.

The Elkin Motor Co., Elkin, N. C., which was recently incorporated with a capitalization of \$60,000, will erect a garage 66 x 100 feet.

The Martin Motor Sales Co., St. Paul, Minn., has moved from 344 North Exchange street to the Kissel Kar building, 237 West Ninth street. The company handles the Maxwell and is managed by W. F. Frei.

The Prange Co. has been organized in Sheboygan, Wis., by August Prange, Fred Voigt and Thomas Femmel. A garage has been opened at 1215 North Ninth street. The company will handle the Chevrolet and Oldsmobile.

The Standard Motor Co., Baltimore, Md., Cadillac distributor, has moved from 16 West Mt. Royal avenue to 1009-15 North Eutaw street. All departments are now centered in one building instead of being separated, as formerly.

L. D. Lane, Henning, Ill., is erecting a building, part of which will be used as a garage.

Smart Bros., Eagle, Wis., will erect a garage and machine shop at Wisconsin and Park streets, Burlington, Wis.

The Auto Garage & Sales Co., Canton, O., has been incorporated with a capital

of \$10,000 and will take over the business of the Wise-Green Motor Co., which recently went into the hands of receivers.

J. S. Damon will build a garage at 2045 West 95th street, Chicago, at a cost of \$7,500.

Edward I. Blom will build a garage 75 x 100 feet at 1232 East 47th street, Chicago, at a cost of \$10,000.

The Xenia Garage Co., Xenia, O., has been incorporated by J. D. Bice, Mrs. Frances Bice and G. W. Craig. The capital is \$2,500.

The H. & G. Motor Co., Cleveland, O., has moved into new quarters at 1824 Euclid avenue. The company handles the Lozier and Regal and expects to take the Empire also.

The Hudson Stuyvesant Motor Co., Cleveland distributor of the Hudson, is planning the erection of a large building at 2002 Euclid avenue. The building will have a frontage of 54 feet and a depth of 189 feet and will be three stories high for 100 feet of its depth and one story at the back. It is expected that the building will be ready for occupation early in the coming year.

Dixon & Chubb, Rocky River, O., will build a 50 x 100-foot garage at 18626 Detroit avenue, Cleveland, at a cost of about \$5,000.

The E. W. Steinhart Co. has succeeded the Steinhart-Ecker Co. as Dodge dealer for Indianapolis and surrounding territory. Members of the company are E. W. Steinhart and G. H. Grieger, of South Bend. C. F. Ecker, formerly associated with Steinhart, will devote all his attention to the distribution of the Cadillac in Indiana with the Cadillac Auto Co. of Indiana.

The Auto Equipment Co., 21 North Meridian street, Indianapolis, is a new concern which will be exclusive state agent for Ajax tires.

Wm. H. Hardy has awarded the contract for a two-story garage 27 x 42 feet in Waukesha, Wis.

The Overland Wisconsin Co., 510 Broadway, Milwaukee, has awarded the contract for remodeling its garage.

F. J. & C. W. Dickover have purchased the garage business of L. F. Scheppke, Sparta, Wis. Sheppke retains an office at the garage and will continue to sell cars.

Fred L. Moser has purchased the repairshop of O. H. Fiske, Delavan, Wis. A line of accessories will be stocked.

Wm. Van Lieshout, of West Holland, Wis., will build a garage in Kankana, Wis., for Ford cars.

T. O. Vivian has purchased from Wm. Ferrill a site at Mineral Point, Wis., upon which he will build a large garage.

The Central West Motor Car Co., Columbus, O., has succeeded the Vincent & Frang Auto Co., which has been handling the Oakland. A new building at 84 North Fourth street will be occupied.

G. W. Noble has erected a garage in Blanchardville, Wis. A repairshop is a feature.

The Cornelius-Browning Auto Co., Chalmers and Inter-State distributor, Toledo, has enlarged and redecored its establishment, 817 Jefferson avenue.

The Scripps-Booth Sales Co., Cleveland, has removed from 2027 Euclid avenue to 6504 Euclid avenue, where they are sharing quarters with the Chase Motor Truck Co.

The Forest City Garage, Superior avenue, N. E., and East 110th street, Cleve-

A First Stock

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land, has opened a branch at 1824 Euclid avenue for the sale of Inter-State cars. A service station will be established.

The Gordon Auto Sales Co., 1000 Woodward avenue, Detroit, is now distributor of the Scripps-Booth. This company also handles the Chandler and the Ohio electric.

Wallie Omans and W. F. Peters have opened a garage in Mt. Pleasant, Mich. They will make a specialty of repairing Ford cars.

The Badger Tire Repair Co., Milwaukee, state agent for the Kelly-Springfield tire and operating a large tire repair shop, has moved to new and larger quarters at 142-144 Oneida street.

The Dayton Rubber Sales Co., Milwaukee, has moved to new and larger quarters at 415 Cedar street.

The Standard Auto Co., Detroit, is no longer handling the Scripps-Booth. Temporarily, at least, the company will handle only the Oakland and G. M. C. lines.

G. F. Schlaack, Birmingham, Mich., has opened a garage.

Walter Baranowski, Royal Oak, Mich., is erecting a garage on the site of his former blacksmith shop.

F. H. Broderick has opened a garage in Clare, Mich.

Miller & Ashe, Ionia, Mich., has taken the agency for the Dodge. They will continue to handle the Oakland.

Collar & Hulliberger are now the owners of the former Van Vleck Garage, Ionia, Mich.

H. C. Pfaff, Galesburg, Ill., has taken the agency for the Chevrolet and will have charge of the Knox county distribution. He will also handle the Buick as in the past.

M. L. Miller, Freeport, Ill., has taken the agency for the Chevrolet and will be distributor for that city and Stephenson county.

E. D. Vanarsdell has taken on the agency for the Dodge Bros. car in Galesburg, Ill., and Knox county.

B. E. Hewitt and C. H. Walters have formed a partnership and will handle the Allen in Galesburg, Ill., and Knox county.

The Fuhrman Auto Co., Fort Wayne, Ind., has been incorporated for the purpose of buying, selling and repairing automobiles, gasoline tractors, automobile parts and accessories. The stock is divided into 100 shares at \$100 each. The directors are William J. Fuhrman, George DeWald and Clifford Beall.

The Indiana Auto Sales Co., Elkhart, Ind., has incorporated for \$10,000 for the purpose of buying and selling automobiles and conducting a repairshop. The directors are H. L. Simonton, H. H. Albert and E. J. Engstrom, all of Elkhart.

John Forsman and George Stephens, Rhinelander, Wis., have established a tire, supply and repairshop in the Gilligan & Wesley garage, Rives and Thayer streets. Both were formerly in the same business in Duluth.

Thor & Schumann are erecting a garage and salesroom on Third street, south of Center street, Milwaukee. Plans call for a solid brick building of fire-proof construction, 50 x 150 feet. A machine shop will be operated.

L. Baum & Sons have established a motor car supply and accessory store and repairshop at 427 Chestnut street, Milwaukee.

Floyd Izeminger, formerly distributor of the Ford at Bloomington, Ill., has been given the Hupmobile agency for the same territory.

George W. Ehrhart has been given the Hupmobile agency for Decatur, Ill., and Macon county.

J. E. Wyckoff, of Saybrook, Ill., has taken the agency for the Dodge Bros. car and will have charge of that city and adjoining township.

Howard Zahn has secured the agency of the Buick for Jacksonville, Ill., and vicinity and this week opened a garage capable of accommodating 60 cars. The plant is located at the corner of Morgan and East streets.

C. J. Frey, Bloomington, Ill., has been given the Woodford county territory by the Buick company.

R. C. Ranken has been appointed agent for the Oakland for Freeport, Ill., and vicinity.

The Racine Auto Tire Co., Racine, manufacturing the Racine Horseshoe tire and other rubber goods, has established a branch depot and distributing station at 140 Oneida street, Milwaukee. W. M. Smith, of Milwaukee, has been appointed manager. The branch will handle all Wisconsin business.

Glenn Hill, who recently established a garage at Green Lake, Wis., has purchased the Ford Garage at Campbellsport, Wis., and takes over the Ford agency for Fond du Lac county. He will also conduct a general repair and supply business.

W. W. Holman has obtained the Reo agency for Livingston county, Ill., with headquarters at Pontiac.

Thompson & Co. have been given the agency for the Ford at Stanford, Ill., and vicinity.

Franklin Harsman and Lloyd Coppel moved into a new garage this week at the corner of Orange and Market streets, Havana, Ill. The structure is of brick and modern in every respect. The firm will do a general repair business.

L. B. Meiseter, of Metamora, Ill., has taken the subagency for the Dodge Bros. car.

Albert Edds and George Joeger have formed a partnership at Pekin, Ill., and this week opened a new garage on Elizabeth street. They will do a general repair business.

The Van Brunt Automobile Co., Sioux Falls, S. D., is preparing to erect the largest garage in that city.

The Bartles Oil Co., St. Paul, Minn., will remodel the two-story structure at Sixth, St. Peter and Washington streets into an arcade filling station. The building will contain stores and offices for automobile supply and accessory dealers.

The Cole Motor Sales Co. has been organized in Sioux City, Ia., by C. O. Donaghu. The new firm will be Cole distributor throughout the territory adjacent to Sioux City and it will have salesrooms on Douglas street between Third and Fourth streets.

The Taylor Motor Co., Des Moines, Ia., hereafter will handle the Saxon car in Des Moines. L. W. Taylor will be in charge. The salesroom will be at 1016 Locust street.

The Iowa Automobile & Supply Co., 407-415 Fourth street, Des Moines, Ia., is remodeling its building.

The Clemens Auto Co. is contemplating the construction of a garage in Des Moines, Ia., at a cost of \$35,000.

PACIFIC COAST

The Roddan-Latimer Sales Co., Los Angeles, has opened a tire house at 1046 South Olive street, with exclusive selling rights for Hercules tires.

J. Walter Hainsworth, Seattle, Wash., has taken the agency for the Oldsmobile. The new distributing firm will be known as the Hainsworth Motor Co. and will be located at 1409-11-13 Broadway. A. B. de Catellane has been named sales manager.

The Automobile Tire Shop, Spokane, has secured the agency for Knight tires for Spokane and the Inland Empire.

E. E. Doane, Spokane, Wash., has recently completed a garage and supply house, known as the Division Street Garage. The building is of brick, 100 x 100, and is modern in every respect. A complete line of supplies and accessories is carried.

E. H. Bechtel, 1322 South Grand avenue, Los Angeles, has opened a tire store. The shop is equipped for tire service exclusively.

The Hucks Auto Electric Co., Los Angeles, Cal., is now located in the new brick building at 1320 South Grand avenue. The company is making a specialty of Remy equipment.

H. G. Pendell, southern California distributor of Atterbury and Commerce trucks, has moved from Pico street to a garage 150 x 250 at 1239-41 South Figueroa street. One side of the entrance there is the office and opposite a show room. The stock room is on the second floor and the repair department in rear of the main garage room.

C. E. Stevens, St. Helens, Ore., will construct a garage, 100 x 100, one and one-half stories high. A machine shop will be an important part of the establishment.

Waffle & West, Santa Ana, Cal., will build a garage and machine shop on Fifth street.

MOUNTAIN

The Inter-Mountain Electric Co., Salt Lake City, has removed from its old location at 17 East First South street to a new location at Fourth South and Cactus streets, where an entire building is occupied. C. B. Hawley is general manager of the company. An accessory department is an important part of the establishment.

SOUTH

John U. Field, Hupmobile dealer at Versailles, Ky., is erecting a garage.

J. F. Hayden, Hupmobile dealer at Owensboro, Ky., is building a garage.

The Southern Motors Co., 615 South Third street, has acquired the agency for Mohawk tires.

The Bywater-Ortner Motor Co., Studebaker dealer in Louisville, Ky., has increased its capital stock \$25,000. George W. Dant, of Dant, Ky., a well-known banker and distiller, was elected president, and N. W. Bywater, secretary. Ortner retains an interest in the concern and will assume charge of the used car department. The salesrooms are being remodeled, both exterior and interior, so that the plant will be thoroughly modernized.

The Farmers & Tourists Garage will be built at Greene and Wayne streets, Louisville, Ky.

James Rittenhouse, Jr., and John P. Seitz, have bought out the Rittenhouse-Winterson Auto Co., 1921 North Charles

street, Baltimore, Md., and will continue the agency of the Velie cars and Service trucks, under the name of the Rittenhouse-Seitz Auto Co. C. C. Rittenhouse has retired from the business. James Rittenhouse, Jr., is president and general manager and Seitz is sales manager.

Stokes Payne has opened a garage at La Center, Ky.

John Settle and Hoyt Coal will equip a garage at Madisonville, Ky.

S. G. Dolive, Orlando, Fla., has awarded the contract for the construction of a two-story garage, 50 x 100 feet, at an estimated cost of \$4,000.

SOUTHWEST

The Tire Service Co., Kansas City., Henry Winter, Manager, is moving from 1621 Grand avenue to 1606 McGee street, into a one-story building now being completed, leased for five years; after two years a second story is to be added for the tire company. The company is agent for the Pennsylvania tire in Kansas City and does a general tire service business.

The Davis Turnery Automobile Co., Dallas, has established an agency under the new agreement for the Oldsmobile.

The Half Thomson Motor Car Co. has been organized and chartered in Austin, Tex., with a capital stock of \$15,000. This company will be the agency for the Hudson and Dodge Bros. cars. The organizers and incorporators are: G. A. C. Half, E. J. N. Lanham and R. M. Thomson.

Mellville Levy, formerly in the automobile business at Dallas, Tex., as manager for the Half Co., has moved to Kansas City and entered the same business there.

The Overland Texas Co. has been incorporated at Amarillo, Tex., with a capital stock of \$10,000. The incorporators are: T. S. Likins, T. F. Turner and A. S. Rollin.

George C. Halley and Nat Greer have opened a garage and repairshop at 112 West Overland street, El Paso, under the name of the Modern Auto Co.

H. B. Conlisk will build a modern garage at Temple, Tex., at a cost of \$7,500.

J. A. Machin has sold his repairshop to Yaeger & Pfeifer, Little Rock, and has fitted up a garage at 113 East Washington avenue. Accessories will be stocked.

Gilmore & Johnson, who have been identified with the Walnut Street Garage, Hutchinson, Kan., have opened a battery repairshop and charging station at Sherman and Walnut streets. They have the agency for the Willard battery.

William A. Garlaast will build a brick garage at 220 South Water street, Wichita.

John Binkley will open a garage at 825-27 Commercial street, Atchison, Kan., and will handle the Chevrolet.

The Webb-Clemons Auto Supply Co., formerly of San Angelo, Tex., will locate in Temple, Tex., as soon as the building on Third street, which it has leased, is completed.

J. E. Connelly will open a salesroom in Hutchinson, Kan., for the Paige.

The Overland-Houston Co., Houston, has moved into new quarters at the corner of Main and Dallas streets. The building has been remodeled and thoroughly modernized.

The Hilco Rim Lock Co., St. Louis,

Mo., has opened an office and salesroom at 4629 Delmar avenue with M. R. Kohn as manager.

J. M. Vernon has opened a garage in Monticello, Ark.

Charles H. Doak, O'Donnell, Tex., has been appointed agent for the Dodge for Lynn county.

Hall Robinson will build a garage and repairshop at Tahoka, Tex.

B. W. Randolph will build a garage and repairshop at Austin, Tex.

The Webb-Clemons Auto Supply Co., of San Angelo, Tex., has leased a building at Temple which it will occupy in a short time.

C. T. Wetherell, manager of the Co-operative Delivery Service, Kansas City, is building a two-story brick garage opposite the present quarters of the company, which will be completed by October 1. The upper story will be used for storage and the ground floor will be equipped for repair work. The present quarters will be continued.

The Dallas branch of the Haynes Automobile Co. has moved into new quarters at 2215-2217 Commerce street.

Bruening Bros., who for several years have maintained a garage, service station and repairshop at Armour boulevard and Broadway and salesroom at 1712 Grand avenue, Kansas City, Mo., have leased the garage to Hays Bros. and will devote their entire time to the downtown headquarters. They handle the Waverly electric, Apperson and Kissel. They will operate their service station for these cars at the downtown place, but will not for the present install a charging station for the electrics.

The Wolfe-Calhoon Delivery Co., Pittsburg, Kan., will open headquarters in the Middle West building, Carthage, Mo., this month, and will install a delivery service with six trucks.

NORTHWEST

G. W. and J. B. Stoner, Star, Ida., will construct a commercial garage and machine shop.

The Watson Automobile Co., Sioux City, will construct a two-story garage, 100 x 150 feet, at a cost of \$25,000.

O. F. Schee, Des Moines, has leased the main floor of the McCune building at Court avenue and Fifth street and will fit it up to be used as a showroom for Packards. It is planned to form a company to be known as the Schee Automobile Co.

Kearns & McIninch is the name of a new firm operating a garage formerly run by R. W. Furnas in Auburn, Neb.

The Joy Bros. Motor Car Co., Duluth, has opened a new garage at 5 East First street. They handle the Packard.

R. A. Nichols has bought the garage at Revere, Minn., and remodeled it.

The Mutual Auto Co., Duluth, Minn., will build a garage to cost \$25,000.

B. O. Henjum, Wells, Minn., has leased the Motor Inn Garage of H. J. Bishner.

S. L. Young, Austin, Minn., is building a garage for his jitney buses.

P. J. Williams, Montrose, S. D., has lost his garage and automobile warehouse by fire.

O. B. Follette and Arthur Nightengale, Fairmont, Minn., have bought the Victor St. John Garage.

Otto Dirlam, Bismarck, N. D., is erecting a one-story brick garage, 25 x 72 feet.

Blonigen & Harvey, Chatfield, Minn., are completing a garage which they will style The Motor Inn.

Congressman Halvøe Steenerson, Crookston, Minn., is erecting a building to be utilized for garage purposes.

The Joy Bros. Motor Car Co., Duluth, Minn., has opened a new garage at 5 East First street.

N. Y. Taxicab Rates Lowered

NEW YORK, Sept. 10—The Public Service Commission has granted permission to the Westcott Express Co. to put into effect immediately a new tariff of taxicab rates from the Grand Central Station, the D., L. & W. and the Erie Railroad terminals at the foot of West 23rd street, and the West Shore Railroad terminal at the foot of West 42nd street. The new tariff embodies a reduction in the rates heretofore charged. Under the previous tariff the lowest rate for the first zone was 60 cents for one or two passengers. Under the new rule this rate is reduced to 50 cents and the number of passengers that may be carried for it is either one, two, three or four. Two pieces of hand-baggage may be carried inside the vehicle without charge.

Barnes Northwest G. M. C. Distributor

SEATTLE, September 10—W. H. Barnes & Son have just completed a contract with the General Motors Truck Co. under the terms of which the firm becomes distributor for the entire Northwest territory, including Idaho, Washington, Oregon and the provinces of Columbia and Alberta. A few weeks ago Don Lee, San Francisco, took over the distribution of G. M. C. trucks for the states of California and Nevada, including the factory branch in San Francisco with stock and equipment.

Hert Increases Capacity

INDIANAPOLIS, September 10—The Hert Mfg. Co., which produces the Pur-air tire pump, has removed from 150 South Delaware street to a new building at Noble and Market streets, where new equipment has been installed and capacity considerably increased.

Wind Up Pope Receivership

HARTFORD, September 11—Present indications point to a wind up of the receivership of the Pope Mfg. Co. and the payment of creditors in full within a short time. All Hartford property formerly owned by the Pope company has been disposed of and as the Westfield plant has also been disposed of to the Walker interests, now known as the Westfield Mfg. Co., the receivers in Massachusetts will welcome discharge.

A First Stock

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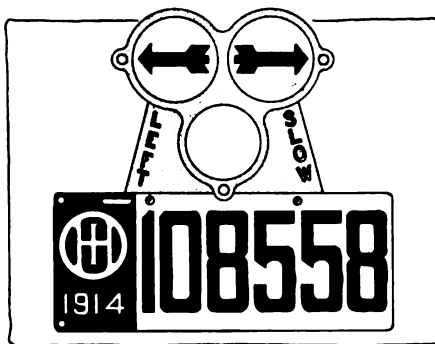


ACCESSORIES & SUPPLIES :

SAFETYLITE REAR SIGNAL

Automatic Signal & Appliance Co., Electric building, Cleveland. PRICE, \$10.

An illuminated signal device which is carried on the rear lamp bracket and operated by a switch on the steering wheel or the dash. There are three disks, two above and one below; the lower is the conventional red light and the upper ones bear red arrows pointing right and left and are illuminated by turning the operating lever right or left. No illumination means straight ahead. The outfit is finished in black enamel and consists of tail light, signal lights, license bracket, switch, wiring and all necessary minor fittings.



Safetylite electric rear signal

NO-LEAK-O PISTON RINGS

The address of the Automobile Accessories Co., manufacturer of the No-Leak-o piston ring is Baltimore, Md., and not Baltimore, O., as was inadvertently stated in Motor World for August 18. The makers call attention to their claim that, a perfect fit in a ring being impossible, the oil must form the seal, and that the volume of oil in the grooves of the No-Leak-o ring is what forms a seal against the flow of oil, and not the tightness of the fit.

LAWCO MUFFLER FOR FORDS

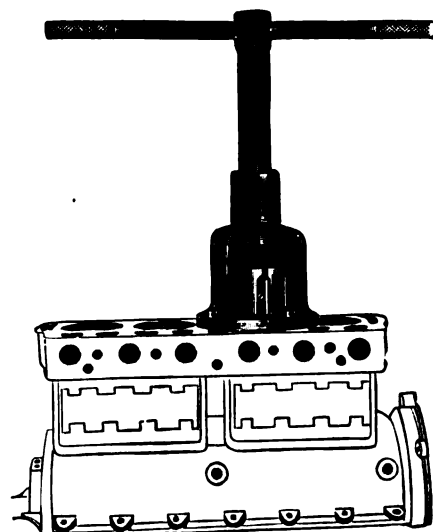
The F. H. Lawson Co., Cincinnati. PRICE, Ford type, \$2 each; dealers, 100, 50 per cent; 50, 40 per cent; 25, 30 per cent; 10, 20 per cent. Single orders net list.

Pressed steel is used, a number of perforated cups being nested. The aggregate area of the perforations is so large that back pressure is small. The makers state that tests made at the laboratory of the University of Michigan indicated an ability to carry heavy loads with no indication of capacity limit, and that the exhaust is quieted better than with the regular type of muffler.

DAVIS CYLINDER BORING TOOL

Hinckley Machine Works, Hinckley, Ill. PRICE, \$37.50.

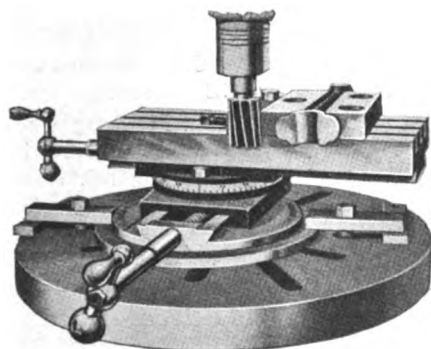
Ford cylinders which are scored or worn out of true can be rebored by hand with this outfit. It consists of a guide, which is bolted to the top of the cylinder, and an adjustable reamer and feeding device. The reamer is turned by



Davis boring tool on Ford cylinder

hand and a single cut is all that is required, the makers state, to produce a fine finish. Cylinders can be bored to fit the 1/32 oversize pistons furnished by the Ford company.

The makers state that one man can set up the tool, rebore all four cylinders in a Ford block and take the tool down in about one hour. No difficulty is experienced in the setting because the tops of the cylinders are faced true and are not subject to wear, and the jig-drilled holes for the cylinder head bolts serve to locate the device.

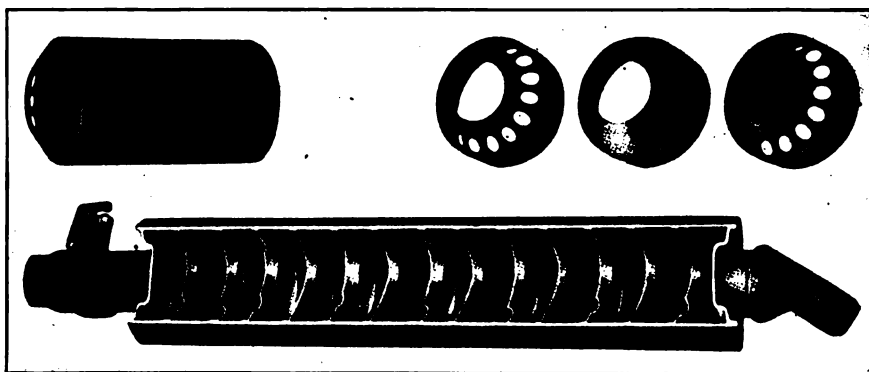


Miller attachable to any drill press

will cut straight, taper or Woodruff keyways, straight or curved grooves, finish semi-cylindrical bushings and bearings, and so on. The attachment, which will go on any drill press from 14 to 42 inches, consists of a 12½-inch circular base with graduated circle carrying traverse slides moving 12 inches longitudinally and 7 inches across, and a vise opening 10 inches. T-slots are also provided in the table for clamping work that the vise will not accommodate. The cutters used are regular stock sizes and do not have to be specially made; they fit in the taper drill sockets.

A First Stock

Page 5

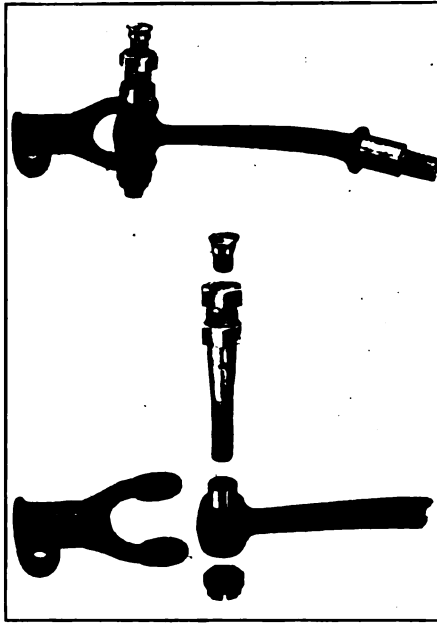


Lawco muffler, showing method of nesting the pressed steel sections

ADJUSTABLE STEERING BOLT

Eclipse Machine Co., Elmira, N. Y.
PRICE, \$1 per pair.

The arms on the knuckles of the Ford front hubs are connected together by a rod, the joints being held by cylindrical bolts which in time become loose through wear. The Eclipse bolt replaces the originals and is adjustable. A split sleeve has a cylindrical exterior and a tapered interior and through it passes a correspondingly tapered bolt which can be inserted as far as is necessary to expand the sleeve until the hole is snugly fitted and locked in place by lock-nuts. Wear is taken up by inserting the tapered bolt further. The bolt is drilled and fitted with an oil cup. Only a wrench is required for application.

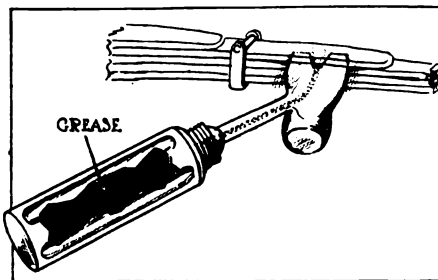


Eclipse spring bolt in place and taken apart

TOMAHAWK SPRING GREASER

The C. W. M. Co., 309 Beard avenue, Buffalo. PRICE, 75 cents.

A wedge-shaped spreader for leaf



Tomahawk spring lubricator in use

springs has a forked edge in which is a hole for the passage of grease; the spreader head is attached by means of a short shank to a cylindrical grease container, a passage through the shank conveying grease to the outlet in the fork. A twist of the container forces grease through the passages and out at the spreader. The butt of the spreader is made so that it can be hammered to force the tool in. Soft graphite grease is recommended for the work.

PREST-O-LITE COOKING OUTFIT

The Prest-O-Lite Co., Inc., Indianapolis. PRICE, stove only, \$4.50; stem and illuminating burner, 55 cents; two-way valve for simultaneous cooking and illuminating, 75 cents.

A hot-plate is set on four legs and fitted with a special burner for using acetylene gas from the Prest-O-Lite tank. A rubber tube is slipped over the tank union and the gas turned on and lighted. If the tank is used for lighting on the car the lamp tube is first slipped off. The stove packs into a box measuring 8 x 8 x 5 and weighs 6 pounds. The makers state that with full flame the gas consumption is 3½ feet per hour. The full flame will boil a quart of water in 3 minutes and is too hot for average cooking. Cost of operation, 8 to 15 cents per hour. The illuminating



Prest-O-Lite cooking and lighting outfit

burner attachment permits lighting and cooking separately or together.

BOKO FOLDING BUCKET

Defiance Welding Co., Defiance, O.
PRICE, \$1.25.

The Boko bucket is of canvas with a hoop rim and handle; when not in use it folds against the rim, lying flat. A tube leading from the bottom folds up



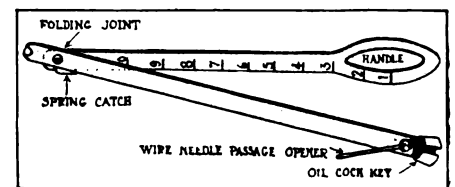
Boko folding bucket, showing method of using

against the side when not in use as a funnel. Capacity, 2 gallons. The makers guarantee it to hold gasoline.

OIL AND GASOLINE KEY

Charles W. Manzel Co., 309 Beard avenue, Buffalo. PRICE, 60 cents.

A folding tool, 24 inches long when open and 13 inches when folded, with an oil-cock key, and an oil-cock cleaning needle on one end and a gasoline tank scale marked on the shank. With the oil-cock key the oil-level cock under the engine can be reached and tried



Oil key and tank gauge for Fords

without difficulty; passages can be cleaned with the wire. The scale on the shank is marked to read in gallons.

WEISS DISAPPEARING STEP

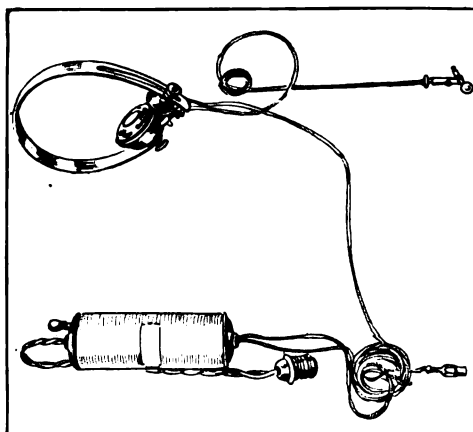
The Weiss Co., 329 West Market street, Indianapolis, Ind. PRICE, \$12; dealers, 1 step, 25 per cent; 6, 50 per cent; 25 or more, 50 and 10 per cent.

A folding step is attached to the under side of the runningboard and is operated by a pedal or lever manipulated by the driver. When extended the step provides an easy means of access to the car and prevents pulling on the door.

BOSS ELECTRIC CIRCUIT TESTER

Maroa Mfg. Co., Maroa, Ill. PRICE, \$12.75.

Any electrical circuit may be tested with this apparatus for grounds, short circuits or open circuits. A plug is screwed into any 110-volt alternating or direct current lamp socket, the telephone receiver placed on the head where it is held by a band, and the terminal clips on the testing wires placed on the ends of the circuits to be tried out. A clear closed circuit is indicated by a clicking sound in the instrument.

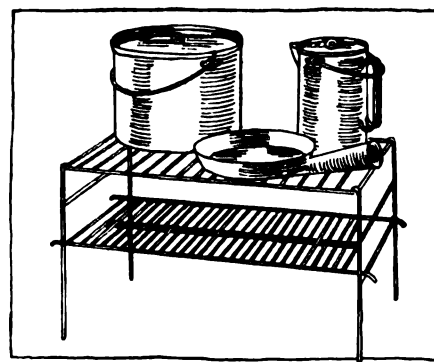


Boss electric circuit testing outfit

CAMP COOKING OUTFIT

United Steel & Wire Co., Battle Creek, Mich. PRICE, \$7.50.

Camp cooking outfit consisting of an 8-quart cooking pot with cover, 7-quart percolator coffee pot, frying pan with detachable tubular handle, tin-plated steel grid and charcoal grate. The cooking utensils are of aluminum; the pot



Camp cooking outfit with steel grate

is the largest, and the others nest into it, the whole being carried in a canvas case. Separate grids of various sizes also are manufactured.

NEW APCO CUT-OUT PEDAL

Auto Parts Co., Providence, R. I.

For operating the muffler cut-out a new pedal has been brought out by this concern. It is of the plunger type with a catch for holding the muffler open. Only a small hole is needed in the foot-board. By removing a pin the pedal proper can be taken from the car, so that the cut-out cannot be operated.

TEMPCO SPARK PLUG BRUSH

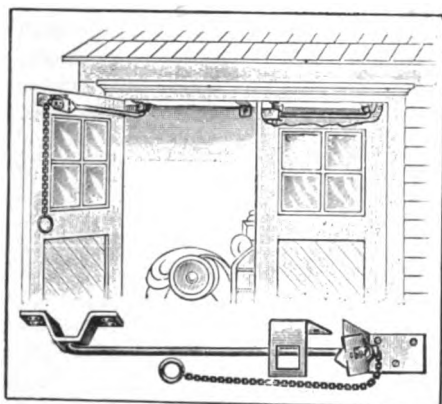
Tempco Mfg. Co., 740-742 Van Buren avenue, Chicago. PRICE, 40 cents.

A spring steel wire brush is set into a malleable iron handle and is designed for cleaning carbon and other foreign matter from spark plugs. The end of the handle is forked and forms an alligator useful for turning small nuts, such as terminal nuts. The head terminates in a screw driver tip which is useful for adjusting spark plug points.

SHELBY GARAGE DOOR HOLDER

The Shelby Spring Hinge Co., Shelby, O. PRICE, \$1.50 each. DEALERS, 40 per cent.

A device which catches the garage door



Shelby garage door holder applied

when it has swung wide open and holds it until released by a pull on the chain. It is made of wrought steel and has no springs. Finished in black japan. Dimensions, swivel or jamb plate, $3\frac{3}{8} \times 2 \times \frac{3}{16}$; door plate with locking device, $3 \times 3\frac{1}{2} \times 2 \times \frac{1}{4}$; rod, $\frac{1}{2}$ -inch round, $33\frac{1}{2}$ inches long; strike, $3\frac{1}{4} \times 3 \times 1\frac{1}{2} \times \frac{1}{4}$; chain No. 13, 36 inches long.

APCO RIM HOLDER FOR FORDS

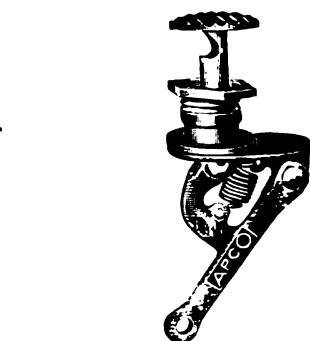
Auto Parts Co., Providence. PRICE, \$2.

This rim holder consists of three brackets mounted on the runningboard. The top bracket has a clasp which locks automatically, being provided with a mail type of rattle-proof lock. The finish is black enamel.

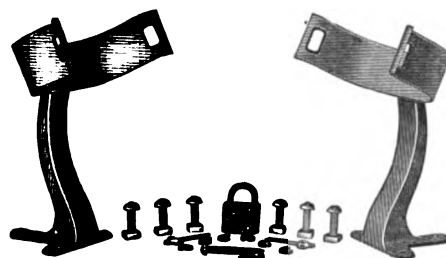
RUNNING GEAR ALIGNER

Mechanical Utilities Corp., 5 North La Salle street, Chicago. PRICE, \$10.

The Line tool for testing the alignment of the front wheels of a car consists of a tubular shank with the ends bent at right angles and carrying adjustable pointers which can be applied to the rims, obtaining true measurements and eliminating the uncertainty due to measuring from tires, which are not perfectly true. The vertical adjust-



Apco cut-out pedal with hold-down

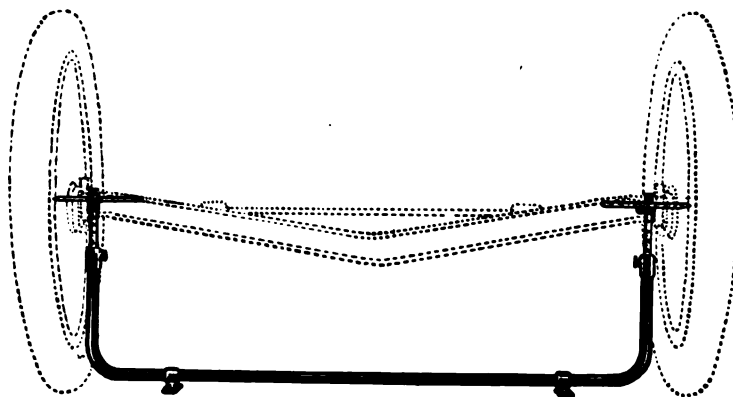


Apco Ford rim holder and lock



Tempco steel brush for spark plugs

able rods are graduated, as is also one of the adjustable horizontal pointers.



Line tool for testing parallelism of front wheels

Price-fixing Contract Not Illegal Says Court

**Chicago Judge Says Patentee Has Right
to Say What His Goods Shall Be
Resold For—Decision Far-
reaching**

CHICAGO, September 11—Price maintenance may not be the dead issue it has been supposed. Judge Geiger has handed down an opinion which in effect states that the holder of a patent may by contract fix the price at which the article is to be sold. The suit was brought by the American and Columbia graphophone companies against the Boston Store of Chicago.

The price ruling, while vague at points, has generally been understood to forbid price-fixing in any form. There have been numerous suits and decisions. In many of the suits the patentee attempted to fix the price by attaching a notice to his goods, which notice forbid a sale at a cut price. These cases are brushed aside as immaterial to the issue by Judge Geiger, who states that this case is one of a direct contract between the patentee manufacturer and the dealer to resell at a fixed price.

He holds that it is part of the right conferred by the patent that the patentee may barter in any way he sees fit under his right to sell. He states "that an agent or vendee of a patentee may, by direct covenant or agreement, be bound to the observance of price restriction, imposed as a condition upon which exclusive right of sale by the patentee is being exercised. Whether a violation of such agreement be dealt with as for infringement or breach of contract . . . is immaterial. . . ."

"The suit arose out of an alleged breach of contract by the defendant," said Elisha K. Camp, New York, counsel for graphophone companies. "The plaintiff charged breach of contract in that goods had been sold at 'cut prices' and not infringement, and this the defendant admitted, but pleaded that the suit had no standing in equity. Judge Geiger has given great consideration to the facts and his decision undoubtedly is the law of the land on this subject as it exists today and will be upheld if it is appealed from."

Benson Completes Organization

PORTLAND, ME., September 11—E. R. Benson, formerly vice-president of the Studebaker Corp. and who took the distribution of the Studebaker for Maine and northern New Hampshire, with headquarters at Portland and a branch at Bangor, has formed a company capitalized at \$150,000. R. J. Miller, formerly assistant manager of the Boston branch

of the Studebaker Corp., and C. A. Laidlaw, formerly of the sales force in Boston, are members of the staff, the latter to act as wholesale representative.

Maine Dealer Passes Away

PORTLAND, ME., September 11—George H. Wagg, proprietor of the Maine Motor Car Co., died last week after a long period of ill health. He had been Maine Chalmers distributor for several years.

MANY DEALERS SHOW CARS

AT TOLEDO'S COUNTY FAIR

TOLEDO, O., September 10—One of the features of the annual Lucas County Fair, held at Toledo the week of September 6, was the display of both pleasure and commercial motor vehicles. The cars were displayed under a tent. The dealers taking part in the display were: Blevens Auto Sales Co., Studebaker; Cornelius-Browning Auto Co., Chalmers and Inter-State; Atwood Automobile Co., Overland; Abbott Motor Sales Co., Abbott and Allen; Roberts-Toledo Automobile Co., Ford; Lichtie Auto Co., Chandler; Paige-Toledo Co., Paige; Landman-Griffith Co., Maxwell; Gamble Motor Car Co., Hudson and Dort; Toledo-Saxon Co., Saxon; Bunnell Auto Sales Co., Chevrolet and Kissel; H. W. Lancashire, Dodge; United Garage Co., Reo; Auto Distributing Co., Regal; King Motor Sales Co., King; Elon Gauntlett, Buick; H. E. Throne, Mitchell; George E. Grant Auto Sales Co., Oldsmobile and Argo.

Adopt Price Schedule

MILWAUKEE, September 13—Independent gasoline marketers in Milwaukee have taken cognizance of the necessity for new price classifications to accommodate large consumers as against motorists getting small supplies at filling stations for practically the same prices. Filling stations dot the city. While the new classification does not increase the price to the small consumer, the large consumer is benefitted by a decided reduction. The new classification and quotations now prevailing throughout the city are:

Gravity	Filling Station Any Quantity per gal., cts.	Tank Wagon Delivery per gal., cts.	Tank Wagon Del., 100 gal. or more, cts.
60	10.5	9.6	8.6
65	10.0	13.5	12.5
70	16.0	15.5	14.5
72	18.0	17.5	16.5

Chase Gets Apperson in Boston

BOSTON, September 11—M. F. Chase, who has handled the Stutz in New England for some years until this season, has taken on the Apperson at retail and will market it from the former Stutz salesrooms on Boylston street. This will not have any effect upon the selling of Appersons at wholesale in Boston by the Brown-Apperson Co.

Denver Association Has License Fee Cut in Two

**Ordinance Passes With License at \$25—
\$50 Had Been Proposed—Law States
What a Garage Is—Curb Pump
Law Delayed**

DENVER, September 10—The bill requiring garages to pay a yearly license fee of \$25 was passed at this week's meeting of the city council. There was no opposition from the garagemen after the Automobile Trades Association succeeded in having the amount of the fee reduced from \$50 to \$25. The new ordinance will affect sixty or more public garages. The bill defines a garage as follows:

"Any building or place used in whole or in part for the sale or the storage for hire of automobiles, motorcycles, electric cars or other motor vehicles, and wherein gasoline, oils or electric energy for the propulsion of such vehicles is dispensed or stored." This is interpreted as applying to private garages rented by the owners to other parties, and also to salesrooms used by dealers. The bill states specifically, however, that it is not intended to apply to regular filling stations, which are licensed at \$200 a year under a separate ordinance.

A companion measure, to permit garages to install curb pumps within certain districts by paying a license fee of \$25 a year for each pump, was brought up for consideration but was referred to the city attorney for further advice. The bill is expected to pass.

Changes in Providence

PROVIDENCE, R. I., September 11—There has been a number of changes in the motor field in Providence during the past few days. Percival S. Clark, one of the pioneers, has retired from active selling to devote his time to civil engineering and also to directing the annual show of the Rhode Island Automobile Dealers Association, which takes place early in the winter.

Walter R. Richards, who was associated with Clark for many years, has taken over the Mitchell line that the former handled and he has leased salesrooms formerly used by the Knox dealer at 179 Aborn street.

The J. C. Tucker Co., that moved here from Narragansett Pier and had the Chase and Vim trucks and the National and Paige cars, has given up the passenger car part of its business. The Paige was taken over by J. C. Sperry, who had been with the Tucker company. The National is now handled by the Knight Automobile Co., managed by Harry D. Gilbert, who also has the

Stearns-Knight and White cars and trucks. The company is now located on Broad street also.

The Buick agency, handled by the Aetna Bottle & Stopper Co., has just moved into the building erected on Broad and Winter streets for the Mitchell agency.

Few Changes in Mercer Models

TRENTON, N. J., September 10—The new series of the Mercer Automobile Co. is now going through the factory on regular production schedule and shows no marked change over the series of last season. The new model is styled 22-72 and succeeds the 22-70, and what changes there are, are merely in the way of fittings. The prices remain the same, the six-passenger touring being \$3,000, sporting four-passenger \$3,000, runabout \$2,900, and raceabout \$2,750, or \$2,900 with electric starting. The Mercer motors are four-cylinder $3\frac{3}{4} \times 6\frac{3}{4}$ with L-head block cylinders having the valves on the right. The wheelbase of the sporting and touring models is 130 inches and the raceabout and runabout 115 inches.

New Philadelphia Quarters for Kelly

PHILADELPHIA, September 10—The branch of the Kelly-Springfield Tire Co. in this city was removed last week from its previous quarters, 208 North Broad street, to a new building at 257-259 North Broad. The new building has three stories and basement and is fully equipped to render every service.

Hartford Fair Show Disappoints

HARTFORD, CONN., September 11—Dealers who exhibited at the Connecticut State Fair at Charter Oak park are not all pleased with the results. When interviewed on the subject a number of prominent car representatives asserted they would never again participate in a similar event. While there were large crowds at the fair and all available parking spaces were thronged, motorists seemed most inclined to occupy seats in the grandstand and watch the horse races. Very little business was done.

Daly and Bayerline Combine

DETROIT, Sept. 13—The firm Daly & Co. has been formed by W. L. Daly and J. G. Bayerline, with headquarters in the Hammond building, to act as manufacturers and distributors agents, also as special advisors on commercial matters. Bayerline has been in the automobile business for the past 13 years, being president and general manager of the King Motor Car Co. during the last 3 years. The new firm has arranged for the exclusive sales in the United States of the American one-man tops for Fords, made by the American Top Co., Jackson, Mich. The concern also handles crown fenders, streamline radiators, hoods, etc.

To Manufacture S. K. F. Bearings in Hartford

Company Is Formed With \$2,000,000

Capitalization—Closely Related to

Concern Which Has Been

S. K. F. Importer

HARTFORD, CONN., September 10—The S. K. F. Ball Bearing Co. was incorporated here last week with a capital of \$2,000,000 and will take up the manufacture and marketing of the product bearing its name. Although the company has carried a large stock of bearings in America, the S. K. F. Ball Bearing Co., which was incorporated in 1910 being a sales organization for the bearing manufactured by the parent Swedish concern, it has been found advisable to erect an American plant.

A suitable site of about 8 acres along the line of the New York, New Haven & Hartford railroad has been acquired and the erection of the first building will shortly be commenced. The sales policy will not be affected by the operation of the American plant and the executives of the old company will join the new organization. One of the prominent new directors of the American company is B. W. Hanson, vice-president of Pratt & Whitney, Hartford.

The company will continue to import bearings from the parent company as long as may seem desirable and at the same time will market its own product, which will conform closely to the imported bearings and will be made largely of the same imported materials.

Olds Offers Winter Top

LANSING, September 11—As a substitute for the conventional winter limousine the Olds Motor Works is supplying dealers with a cold weather top which is so constructed that in the summer the side sills and windows can be removed, leaving the sides entirely open. The standard windshield remains in its place and serves as a rigid front support for the top. A glass shield is mounted on the front of the top above the windshield in such a way that it prevents the windshield from becoming coated with snow.

Four More M. A. M. Members

NEW YORK, September 11—The following have been added to the list of members of the Motor & Accessory Manufacturers:

Eclipse Machine Co., Elmira, N. Y.
The John O. Heinze Co., Springfield, O.
The Oakes Co., Indianapolis. William Shakespeare, Jr., Co., Kalamazoo, Mich.

Chicago Branch For Grossman

CHICAGO, September 11—The Emil Grossman Mfg. Co., Inc., New York, has

leased the top floor of the building formerly occupied by the Winton Motor Car Co., at the northeast corner of Michigan avenue and 13th street, Chicago. Here will be located the western manufacturing and distributing branch. The space occupied is 6,000 square feet. Rudolph Cony is manager.

Waco Cars From Seattle

SEATTLE, September 9—The Western Automobile Co. has recently been incorporated here to manufacture the Waco car. Those interested in the concern are C. A. Cawley, George L. Grant and S. W. North. A large factory building has been leased at Ranier avenue and Lane streets. The first car has already run 2,000 miles and delivery of cars is promised for March 1.

Gilbert Made Gibney Vice-President

PHILADELPHIA, September 10—At a special meeting of the stockholders of the Gibney Tire & Rubber Co. held last week, Joseph M. Gilbert was elected vice-president and director of sales of the company. His headquarters will be in New York, where the whole of the Gibney sales organization will have its center.

Providence Draws 20 Drivers

PROVIDENCE, R. I., Sept. 13—To date 20 drivers have officially entered for the opening races on the 1-mile asphalt speedway at Narragansett Park, Saturday, September 18. Mulford has entered a Peugeot but he has not yet arrived from France. Both Babcock and Walter are endeavoring to make post entries with Peugeots. The main event is for prizes aggregating \$11,000 and cars having less than 450 inches displacement. As only 14 cars can start, it will be necessary to hold elimination trials Wednesday, Thursday and Friday. The entry list follows:

Driver	Car
De Palma	Stutz
Rickenbacher	Maxwell
Burman	Peugeot
G. Bergdoll	Erwin Special
E. Bergdoll	Erwin Special
Vail	Mulford Special
Haupt	Duesenberg
O'Donnell	Duesenberg
Henderson	Duesenberg
Dickinson	Stutz
Alley	Ogren Special
Jessop	Chevrolet
Sartori	Mercedes
Connery	National
Myers	National
Sorrell	Stutz
Lecain	Pugh Bros. Special
Grant	Sunbeam
Basle	Bugatti
Jones	Peugeot

A First Stock

Page 5

Daniels Tells What His New Eight Will Be Like

Will Sell for \$2,350 and Will Seat Seven Passengers—Standard Parts to Be Used—Maker a Former Oakland Man

READING, PA., September 13—The Daniels eight which, as was stated in Motor World for September 8, is to be built by the Daniels Motor Car Co., the president of which is Geo. E. Daniels, who was president and general manager of the Oakland Motor Co., Pontiac, Mich., will be a car built practically to order, to sell for \$2,350. The wheelbase will be 127 inches and the tires 34 x 4½. Unusual attention will be given to the finish and equipment of the seven-passenger body, which will have a double cowl, heavy mahogany rail all around the top, long grained hand-buffed leather upholstery, mahogany cabinet fittings and other luxurious features.

The motor will have V-type L-head cylinders, 3¼ x 5, rating 33.8 under the S. A. E. formula; the cylinders will be in two blocks with integral intake manifold and bolted-on exhaust pipes, and the valves will be actuated by a single camshaft carrying 16 cams. Staggering the cylinder blocks permits placing the big-ends of the connecting rods side by side on the crank pins. Water circulation will be by duplex centrifugal pumps, lubrication by pressure feed, ignition, lighting and starting by Westinghouse system. The carburetor will be a Zenith.

A Brown-Lipe-Chapin three-speed gearset will form a unit with the motor; the disk clutch will run dry and will have a ball-bearing release. Two Spicer universals will be used on the propeller shaft, which will be unenclosed; drive will be taken through the springs, and an arm will resist torque stresses.

Three-quarters construction will be employed for the axle, which will have taper roller bearings, spiral bevel gears and pressed steel housing. Rear springs will be semi-elliptic, underslung, 2½ inches wide. The gasoline tank, of 20 gallons capacity, will be hung at the rear, a vacuum system feeding the carburetor.

More Deliveries from Detroit

DETROIT, September 10—The Detroit Commercial Car Co. has been formed here to manufacture a delivery car to be called the Detroit package wagon. W. D. Paine, formerly a zone supervisor with the Maxwell Motor Co., is president and general manager; the names of other members of the concern have not been made public. Headquarters

will be at 1225 Woodward avenue. The car will have a capacity of 750 pounds and will sell for \$690 with panel or open express body and for \$745 with a more elaborate type of panel body. The wheelbase will be 106 inches; the motor will be 3¼ x 4, driving through a disk clutch and three-speed gearset to the spiral bevel axle. Pneumatic tires 30 x 3½ will be standard.

PREST-O-LITE GETS BROWN BATTERY—ENTERS RACING

CHICAGO, Sept. 14—The Prest-O-Lite Co., Indianapolis, has purchased the Brown-Smith Battery Co., Bloomington, Ind., which has specialized on batteries for house lighting purposes. This acquisition broadens the Prest-O-Lite battery line, which heretofore included ignition and starting and lighting batteries. At the same time, the Prest-O-Lite company has entered racing, purchasing from the Maxwell company the four special Maxwell racing cars, which will be raced in the speedway circuit as a Prest-O-Lite team under the management of E. V. Rickenbacher. These are four-cylinder cars, 3.75 x 6.75, and can be used with either eight or sixteen valves. Two of these cars will be entered at the Sheepshead Bay Speedway race, one driven by Rickenbacher and the other probably by Harry Grant. It is understood that the price was in excess of \$25,000, this to include repair parts damaged in practice or races during one year, and engineering advisory service.

Russel-Knight Refined for Canadian 1916 Trade

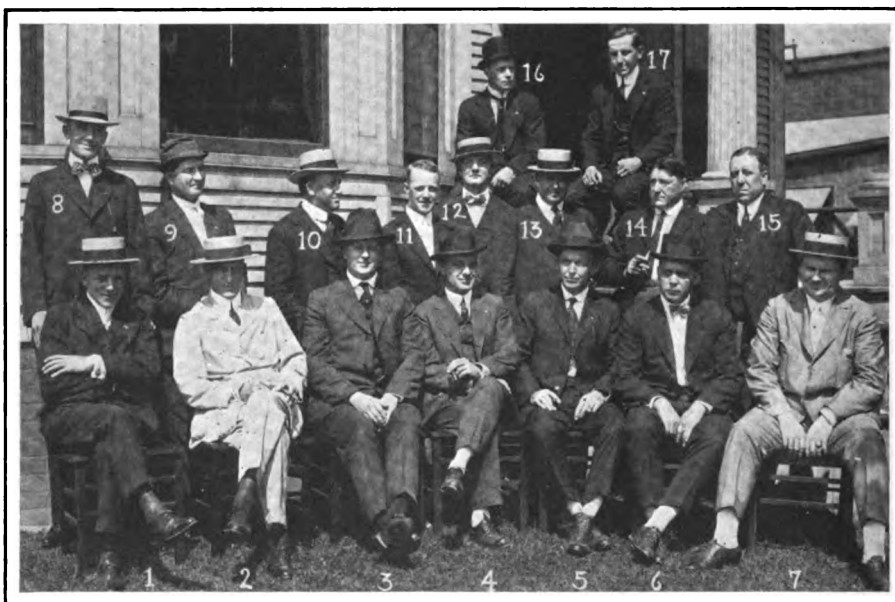
Made in Two Styles, at \$2,650 and \$2,750 —Bijur Lighting and Starting System—Engine Rated at 32 Horsepower

WEST TORONTO, CANADA, September 10—Several refinements have been made in the 1916 Russel Knight 32, made by the Russell Motor Car Co., Ltd., this city. It is made in two body styles, five- and seven-passenger, the former selling for \$2,650 and the latter \$2,750. In the equipment is included Bijur electric starting and lighting system, new domed fenders, improved headlights, power tire pump, Warner speedometer and clock and demountable rims.

The engine is a four-cylinder, 4½ x 5½, rated at 32 horsepower. The cylinders are cast in pairs with separate removable heads, while the sleeves have 2¼-inch travel; cooling is accomplished by a centrifugal pump through the cylinder water jackets to a large cellular radiator. A high-tension magneto independent of the lighting and starting system furnishes ignition.

A multiple-disk clutch running in oil is used and drives through a three-speed selective gearset. The axle is a full-floating Timken with worm bevel gears. The wheelbase is 120 inches and tires 36 x 4½.

Hupp Field Men See a Good Year Ahead



The district salesmen of the Hupp Motor Car Co. recently met at the factory in Detroit. Crops are good, they reported, war purchases are heavy and a good year should result. The men are:

1—F. C. Stowers, New York. 2—W. E. Young, Mississippi, Louisiana and Arkansas. 3—O. C. Hutchinson, eastern sales. 4—F. G. Hill, Iowa, Illinois, Wisconsin and northern Michigan. 5—C. H. Donville, Nebraska and South Dakota. 6—K. R. Spencer, Canadian salesman. 7—C. H. Wallerich, Missouri, Indiana, Kentucky and Illinois. 8—J. R. Overstreet, Texas. 9—B. C. Scriven, New York. 10—L. A. Poundstone, Kansas and Oklahoma. 11—W. Carson, Boston. 12—I. W. Penniman, Maine and New Hampshire. 13—John Ryan, Michigan and Ohio. 14—R. E. Weaver, Virginia. 15—Ward Keller, Pennsylvania and Delaware. 16—F. T. Hodgins, eastern Canada. 17—W. H. Kinnear, western Canada.

Prominent Men of Trade Who Assume New Duties

**Resignations and Promotions That Serve
to Place Many Workers in New
Places—Few of Them Leave
the Industry**

George H. Duck, former president of the Motor Truck Club of America, Inc., and for about 1 year with the Sewell Cushion Wheel Co., Detroit, has just been appointed general sales manager of the United Motor Truck Co., Grand Rapids, Mich. He will establish his headquarters at the plant in Grand Rapids.

E. H. Beltzig has been appointed manager of the St. Louis branch of the Firestone Tire & Rubber Co., Akron, O.

Henry W. Spalding, formerly with the National Cash Register Co., has been appointed general manager of the Packard Missouri Motor Co., St. Louis.

G. P. Moore has been made manager for the Cleveland Motor Sales Co., Cleveland Haynes and Hupmobile distributor.

W. O. Jones, formerly manager of the Los Angeles branch of the Metz Co., Waltham, Mass., has been made manager of the company's branch in Worcester, Mass., 711 Main street.

E. A. Gilmore, formerly a dealer in Boston, has joined the Carl H. Page Motors Co., New York city, as wholesale manager. The company handles the Mitchell in a large section of the east. Gilmore and Page are not strangers, having been associated eight years ago in New York with the White. Recent reports were that Gilmore would open an agency in Worcester, Mass., but this was erroneous.

Arthur A. Bull has been made assistant to Charles S. Crawford, chief engineer of the Cole Motor Car Co., Indianapolis.

A. R. Cosgrove has been appointed sales manager of the Pullman Motor Car Co., York, Pa. Until his connection with the Pullman company he was sales manager of the Magnetic Gear Shift Department of the Cutler Hammer Mfg. Co., Milwaukee.

M. F. Woellering, formerly production manager of the Studebaker Corp., Detroit, has been elected a member of the board of directors.

William E. Cobb has been made manager of the St. Louis branch of the Locomobile Co. of America. He succeeds William H. Roosch, who has returned to the Locomobile branch in Chicago.

R. H. Williams, who was manager of the Studebaker Corp. branch in Indianapolis, has been appointed to a similar position at the Detroit branch.

J. E. Grady has been made sales manager of the Walkerville, Ont., branch of the Studebaker Corp.

W. J. Clemens and **R. H. Stanley** are now connected with the Detroit Motor Car Co., the former having charge of sales in the state of Michigan outside of Detroit, and the latter of the sales in this city.

J. A. Vail, who has been chairman of the board of directors of the Maxwell Motor Co., resigned last week, to retire from business. No successor has been appointed.

Corona Road Race Put Off

CORONA, CAL., September 7—The 1915 Corona road race has been postponed. It will be impossible to hold the classic November 20 as planned on account of road conditions. The three main highways into Corona are to be torn up for reconstruction and it will be at least three months before the roads are again passable, according to city officials and members of the race committee. One of the contracts was let today and the others are to be let during the week. The race probably will be held Christmas day.

Kemiweld Plant to Weatherproof Body

DETROIT, Sept. 13—The Detroit Weatherproof Body Co., recently organized to make weatherproof tops for Ford and other cars, will occupy the plant formerly occupied by the Kemiweld Cam Co. and which has been leased by the C. R. Wilson Body Co., with which the new concern is closely related. The plant is located at Clay avenue and St. Aubin street and contains about 80,000 square feet of floor space. A force of 400 to 500 men will be employed. The Wilson company has secured an option to purchase the plant at a price said to be about \$100,000.

Space for 2 Big Shows To Be Drawn October 7

Drawing Will Be in New York—Chamber Takes Up Car Shortage Question—Announcement Committee Still Working

NEW YORK, Sept. 13—The drawing for space at the New York and Chicago shows will be held Thursday, October 7, at the office of the National Automobile Chamber of Commerce. Members will draw in the morning and non-members in the afternoon.

Among the recent activities of the Chamber is the endeavor by the traffic department to accelerate the return to manufacturing centers of cars in which motor cars are shipped. The Detroit office covers each shipment with a request that the cars be promptly returned when emptied. August shipments nearly doubled those of August, 1914, being 15,141 as against 8,352 carloads.

The committee on a uniform time for announcing new models will have a final meeting on this subject late this month.

As a result of the recent service managers' convention in Detroit, local associations are to be formed in Detroit, Chicago and Cleveland. One has already been formed in Indianapolis.

Canadian Plant For Ford Tractors

DETROIT, September 9—Ford tractors are to be made by the Ford Motor Co. of Canada, Ltd. A plant to be devoted exclusively to this end of the Canadian company's business is to be erected soon. It will be of such size that ultimately from 5,000 to 10,000 men will be employed. It is said that it will be about one year before the first tractors will be marketed.

Dealer Factory Visitors of the Week

WESTCOTT MOTOR CAR CO.

Edward H. Loewus, A. L. M. M. S. Co., N. Y.
C. S. Burke, Springfield, O.
Edward Diehl, Diehl & Lord, Nashville, Tenn.
Lawrence Fisher, Columbus, O.
Dayton Hard, Van Wert, O.
Frank S. Johnson, College Corner, O.
Mr. Gremelspacher, Logansport, Ind.
O. E. Powell, Washington C. H., O.
A. W. Tindall, Hardford City, Ind.
J. L. Wiese, Champaign, Ill.
M. H. Pletcher, Cleveland
W. R. Hoag, Cleveland
J. L. Weise, Champaign, Ill.
C. S. Burke, Springfield, O.
H. H. Kagey, Westcott A. S. Co., Columbus, O.
Chas. Swihart, Eaton, O.
Dayton Hard, Van Wert, O.
A. W. Rowe, Chicago
A. C. Porter, Northwest Hayes A. Co., Minneapolis

SAXON MOTOR CO.

H. V. Smith, Marion, Ind.
J. C. Brown, Butler, Ind.
Wm. Carson, Peru, Ind.
J. P. Beck, Saginaw, Mich.
A. A. Taylor, Aux Claire, Wis.
A. Kerch, Adrian, Mich.
J. C. Stewart, Huntington, Ind.

R. D. Rockstead, Milwaukee
J. B. Chapman, Dayton

PACKARD MOTOR CAR CO.

R. N. Goode, Packard Motor Car Co. of Paris
E. B. Jackson, Packard M. C. Co. of New York
C. A. Foster, Packard Cleveland Motor Co.
C. J. Joy, Joy Bros. M. C. Co., St. Paul
J. L. Palmer, Palmer-Hearrell A. Co., Midland, Tex.
P. K. Russell, Packard M. C. Co. of Pittsburgh
L. L. Miles, Southern Motors Co., Louisville, Ky.
C. A. Geerkens, H. Englebert & Co., Holland
F. E. Avery, F. E. Avery & Son, Columbus, O.

PAIGE-DETROIT MOTOR CAR CO.

L. E. Hayden, Sterling M. C. Co., Indianapolis
John C. Schultz, Mount Healthy G. Co., Mt. Healthy, O.
D. Mahaffey, Mahaffey Bros., Corning, N. Y.
A. Youngs, Youngs & Co., Newburgh, N. Y.
John R. McLaughlin, Columbus, O.
Paul L. Klingler, Klingler & Co., Pittsburgh
J. B. Sperry, Providence
George H. Baldwin, Xenia, O.
S. R. Williams, Williams M. C. Co., Wichita, Kan.
H. C. Masters, Alpena, Mich.
H. A. Porter, Grand Rapids
Mrs. C. P. Kent, representing W. R. Kent, Bluefield, W. Va.

Association News

HOW TO FIGURE OVERHEAD

DES MOINES, September 11—How to figure overhead was explained to the members of the Iowa Automobile Business Association last evening by T. I. Stoner, of the Stoner-McCray Advertising Systems, at the organization's monthly meeting. He also discussed advertising and his talk proved very instructive.

The association is compiling a list of delinquents, car owners who make a practice of getting their limit of credit at one garage and repeating the same at other garages.

The proposed Automobile Dealers Bureau in the organization has given way to a Good Fellowship Club, which meets weekly at luncheon. It is nominally entirely apart from the association proper. The annual meeting of the association and election of officers will be held October 8.

SECURE DOWNTOWN OFFICES

PROVIDENCE, R. I., September 13—Spacious downtown offices and a meeting room have been opened at 306 Smith building by the Rhode Island Automobile Dealers Association. Secretary Percival S. Clark or his secretary are in at all times and have files on credits, trade schedules, unfair lists, employment, general information, legislation and transportation.

At present the chief business is preparation for the Rhode Island automobile show to be held November 12-20, inclusive, in the state armory in this city. It opens Friday night, an idea of Secre-

tary Clark. The first night, he states, is always a "paper" night and Saturday is a good day for the business man to attend. Therefore, issuing all the passes for Friday night leaves two whole Saturdays for the business man to attend. An increased attendance also is expected.

In its downtown quarters the association is prepared to furnish information to tourists. September 18 a 100-mile race with a 70-mile elimination minimum will be run on an asphalt banked speedway built at Narragansett Pier.

OAKLAND DEALERS ELECT

OAKLAND, CAL., September 11—The Automobile Industries Association of Alameda County has elected these officers: President, Frank R. Fageol, Fageol Motor Car Co., reelected; vice-president, Robert Martland, Martland Co.; secretary and business manager, Herbert S. Smith, reelected; treasurer, C. L. Hebrank, manager of the Osen & Hunter Auto Co.

Executive Committee—Chairman, C. A. Miller, United States tire distributor; vice-chairman, E. A. Berg, Berg Auto Supply Co.; C. L. Hebrank, Osen & Hunter Auto Co.; Charles R. Avis, manager of the Weinstock-Nichols Co.; Norman Peart, Peart, Inc.; Robert Martland, Martland Co.; L. L. Lockhart, manager of the Chanslor & Lyon Co.; Louis Reno, Kelly-Springfield distributor; Ben Hammond, manager of the Pacific Kissel Kar branch; E. T. Tuller, manager of the Mathewson Motor Co.; W. L. Webber, manager of Don Lee's branch; P. N. Cole, manager of the Haynes Auto Sales

Co.; F. R. Fageol, Jeffery dealer; Henry L. Gaskill, Alameda Vulcanizing Works, Alameda; E. F. Peckham, Motor Supply Co., Berkeley; George Rodehaver, Rodehaver's Garage, Berkeley. A banquet is planned for September 16.

NEW LOUISVILLE ASSOCIATION

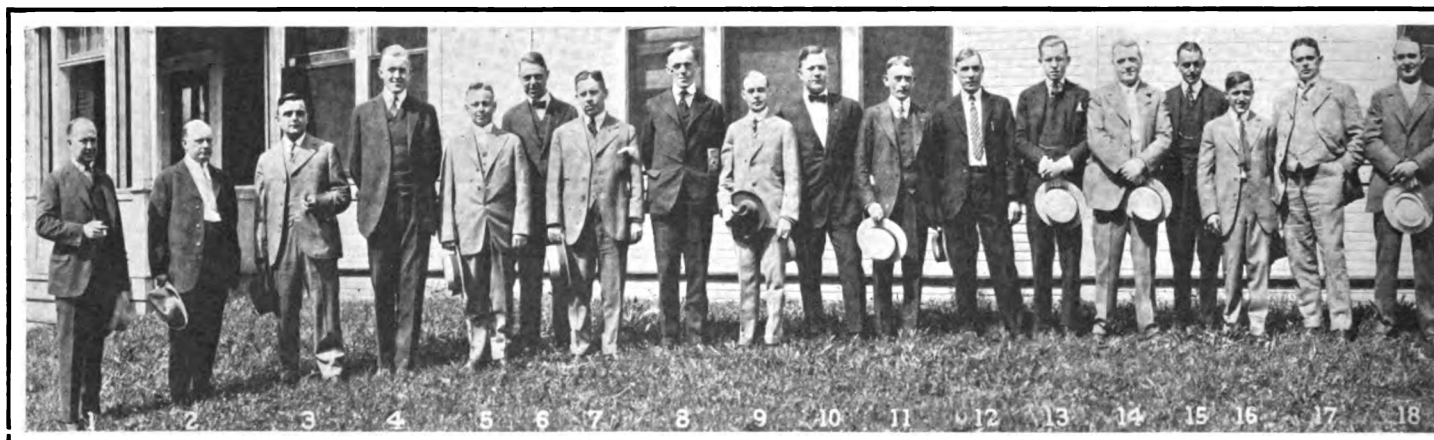
LOUISVILLE, KY., September 13—Articles of incorporation have been filed by the Auto Trade Association. The object of the association is to bring together in social intercourse the members of the trade in Louisville, to promote betterment of trade conditions, the introduction of new methods in business, the correction of abuses and the conservation of the automobile trade. The corporation has no capital stock and is not authorized to incur any indebtedness, but it authorized to create a fund from membership fees. The incorporators and officers are: President, W. A. Thomas; vice-president, Roy E. Warner; secretary, A. F. Wolke; treasurer, J. W. G. Hughes.

STARTS BULLETIN SERVICE

CHICAGO, September 13—A bulletin service for members has been instituted by the recently formed Electric Garage & Dealers Association of Chicago, which is a division of the Chicago Garage Owners Association. The bulletins are instructive and beneficial. One is headed: "Poor Help Inexcusable in Business." It states the advantage of loyal, competent employees and explains the system of weekly meetings and smokers held by the Robert Bland Electric Garage, Evanston. The sessions develop valuable ideas.

Wide-Awake Bulletin No. 5 says: "Al-ways on the Job the Only Way." It urges members to be more keen and better business men and to make the name of the organization stand for progress

Representatives of the Kelly-Springfield Motor Truck Co., Gathered at



1. F. G. Miner, San Francisco
2. J. L. Stone, Los Angeles
3. H. G. Schmidt, Seattle
4. L. P. Kalb, Engineer
5. G. W. Barden, Sec.-Treas.
6. J. A. Comer, Kansas City

7. F. B. Hutchinson, Jr., Sales Manager
8. W. C. Fenwick, South America
9. C. D. Fogle, Pittsburgh
10. Edwin Stiltz, Louisville
11. J. W. Winn, Milwaukee
12. H. H. Thorpe, Minneapolis

13. G. F. Lathrop, New York
14. James L. Geddes, President
15. T. B. Summers, Springfield
16. C. J. Boilon, Service Manager
17. C. T. Wooler, Toronto
18. F. Sandt, Chicago

and good business. They are sent out by President Gail Reed.

TO CODIFY TRAFFIC RULES

CHICAGO, September 13—The traffic rules in the principal cities of the United States are to be used by the Chicago Automobile Trade Association in the preparation of a code which will be recommended for adoption by this city. The associations which are cooperating with the Chicago organization in the National Used Car Market Report are furnishing the rules used in various cities.

TO INVESTIGATE CHARITIES

CHICAGO, September 14—The Chicago Automobile Trade Association is preparing a list of "endorsed charities." Members are asked to send to the secretary the names of organizations to which they contribute. Other charities which in the future solicit contributions will be investigated and if found worthy will be furnished with a credential card, in the absence of which no member will feel called upon to contribute. The action was taken because the dealers have become marks for certain classes of solicitors.

PREPARES MORTGAGE FORM

CHICAGO, September 13—A chattel mortgage form is being prepared by Attorney W. A. Jennings of the Chicago Automobile Association for use by members, some of whom have not been executing their mortgages correctly. Several clauses legally advantageous to the dealer are included. The forms will be sold to members at cost. With them goes a booklet of instructions on a chattel mortgage law which became effective July 1.

SPOKANE HELPING TOURISTS

SPOKANE, WASH., September 13—A Tourist Information Bureau is being maintained in a ground floor store space in the new \$2,000,000 Davenport Hotel by the Inland Automobile Association and three other civic and good roads organizations. Information is free and routes are checked up periodically by visit; 300 transcontinental touring parties have registered thus far, which is estimated as one-third of the tourists visiting Spokane. Secretary Frank W. Guilbert estimates that 1,000 more cars will pass through before winter.

TWO-DAY BOOSTING TOUR

GRAND RAPIDS, MICH., September 11—The Automobile Business Association conducted a two-day trade tour of the Grand Rapids car dealers concluding yesterday. The trip, 275 miles, passed through many towns where the dealers have subdealers, and great interest was aroused throughout the country traversed.

BOTH OR NONE

CHICAGO, September 14—Following the successful promulgation of the salesman's edition of the National Used Car Market Report, the Chicago Automobile Trade Association has ruled that it will not be issued to salesmen unless the dealer who employs them is a subscriber to the larger report. And subscription to the auxiliary report expires with the subscription to the larger volume.

OPPOSE UNSANCTIONED SHOWS

CHICAGO, September 13—The Chicago Automobile Trade Association has taken a stand against its members supporting unsanctioned and privately promoted shows and exhibitions of various

kinds, one or two of which were planned for the near future but which may now not materialize. No objection is made to owners entering pageants and gymkhanas, but it is held inconsistent with the dignity and best interests of the industry to support privately promoted projects at random.

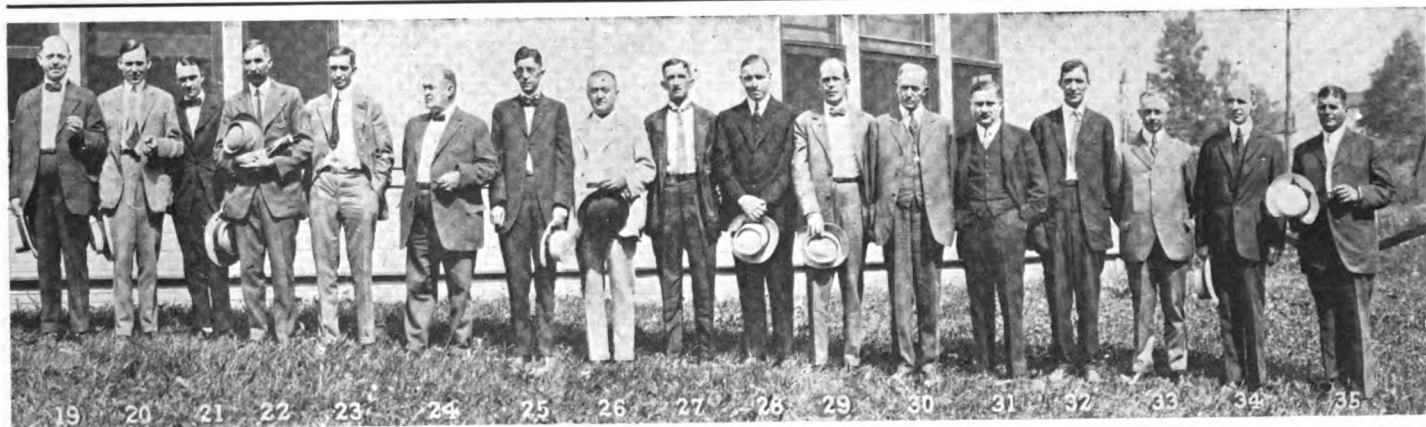
PLAN 3-DAY TOUR

GRAND RAPIDS, September 10—A 3-day business and pleasure tour is being planned by the Automobile Business Association. The trip is to be made a few days before the opening of the West Michigan State Fair, which starts September 20. While the definite schedule will not be known for several days, dealers favoring the project say that it is the intention to have the tour comprise on its route as many towns and villages as possible which have either automobile dealers or garages and to induce in this way these tradesmen to come to the fair and in turn induce as many prospects as possible to also come. It is thought that such a novel method of advertising a coming show—as there will be an automobile show at the state fair—will prove a success, besides being a pleasant way of spending a few days in the open air. Among the localities which the dealers will visit are Zeeland, Holland, Grand Haven, Spring Lake, Muskegon, Whitehall, Montague, Manistee, Big Rapids, Howard City, Reed City, Cadillac and others. Most of the local dealers have already announced that they will take space for the West Michigan State Fair show.

A First Stock

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the Factory, Springfield, O., in Convention During August 26, 27 and 28



19. C. W. Thompson, Chicago
20. George LaBelle, Minneapolis
21. L. Smith, Indianapolis
22. Frank Wing, Ottawa, Ill.
23. L. G. Bradley, Duluth
24. W. H. Anderson, St. Louis

25. F. L. Eatman, Birmingham
26. A. Orr, New Orleans
27. J. F. Vickery, Atlanta
28. W. C. Guilder, Production Manager
29. C. M. Rodgers, Springfield, Mass.
30. J. W. Menefee, Graham, N. C.

31. J. H. Cottier, Pittsburgh
32. W. A. Hinchman, Purchasing Agent
33. W. H. Metcalf, Philadelphia
34. James Joyce, New York
35. P. S. Aultman, Boston

Motor Car Dealers Recently Established

PLEASURE CARS

ILLINOIS

Place	Car	Dealer
Algonquin	Chandler	Peter Bros. Mfg. Co.
Ashtabula	Chandler	Eugene A. Lemangger
Aurora	Oldsmobile	L. D. Krumlauf
Bloomington	Reo	F. H. Cole
Bloomington	Hupmobile	F. G. Osminger
Cerro Cordo	Jeffery	C. W. Adams
Chicago	Herff-Brooks	G. L. Brandels
Decatur	Hupmobile	G. W. Ehrhart
De Pue	Herff-Brooks	Frank H. Fowler
Kewanee	Chandler	Kewanee Garage
Sublette	King	Leffelman & Lauer
Villa Grove	Herff-Brooks	Chas. F. Andrews
Weldens	Reo	M. F. Shinneman

INDIANA

Connersville	Lexington	Inland Motor Sales Co.
Huntington	Ford	Kelsey & Thelme
Indiana Harbor	Oldsmobile	Harbor Car. & Mach. Co.
New Castle	Maxwell	Claude Stanley
South Bend	Vim	Wm. Devall
Sullivan	Hupmobile	Herman Heien

IOWA

Des Moines	Westcott	Iowa Oldsmobile Co.
Lemars	Oakland	Kilburn-Rickabaugh Co.
Long Tree	Abbott-Detroit	H. U. Baker
Merrill	Overland	Schneider & Anderson
Oakland	Oakland	F. W. Pierce
Redfield	Hupmobile	A. E. Smith
Shenandoah	Oakland	A. F. Woodard
Silver City	Oakland	F. W. Anderson
Stanton	Oakland	Stanton Auto Co.

KANSAS

Ashland	Dort	Workman & Caldwell
Atchison	King	A. J. Donnelly
Cimarron	Dort	Isley Lumber Co.
Dodge City	Dort	R. J. Prior Auto Co.

KENTUCKY

Covington	Hupmobile	B. B. Hume
Mt. Vernon	Hupmobile	W. J. Schleicher

MAINE

Dexter	Maxwell	Blaindell Auto Co.
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MARYLAND

Hagerstown	Herff-Brooks	Young Motor Car Co.
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MASSACHUSETTS

Boston	Pathfinder	Regal Motor Sales Co.
Boston	Velle	J. W. Bowman Co.
Boston	Detroit Electric	E. Y. Stimpson
New Bedford	Hupmobile	Knickerbocker Garage
North Adams	Studebaker	W. J. Shaw
Worcester	Studebaker	Studebaker Corp.
Worcester	Velle	O. A. Kelley Co.

MICHIGAN

Alma	Hupmobile	Nelson Smith
Battle Creek	Dort	United Motors Co.
Bay City	Hollier	Stohl Auto Co.
Bay City	Detroit	F. O. Rockwell
Detroit	Dort	A. A. Crumley
Detroit	King	A. A. Crumley
Farmington	Oakland	Wm. Goers
Fremont	Dort	Robert Southard
Fremont	Studebaker	Evans-Tinney Co.
Grand Rapids	Chalmers	C. D. Miller
Grand Rapids	Dort	Oswald Motor Car & Supply Co.
Grand Rapids	Hollier	T. B. Jones
Howell	Ford	Roy Sprague
Jackson	Cadillac	John A. Bennett
Lawton	Ford	Packer & Giddings
Ludington	Studebaker	Peter Peterson
Manton	Overland	A. B. Bartlett
Millan	Detroit	E. F. Bay
Niles	Ford	Pinkham Bros.
Niles	Dort	A. Gregg
Oxford	Ford	Charles Howarth
Pigeon	Dort	Lepprandt Bros.
Reese	Ford	Geo. Schemm
Rochester	Oakland	W. J. Crawford
Rockland	Dort	G. W. Stannard
Saginaw	Oldsmobile	Saginaw Cadillac Co.
St. Johns	Ford	C. M. Sheldon
Sault Ste. Marie	Dodge Bros.	Wynn Sales Co.
Vassar	Dort	K. C. Mott

MINNESOTA

Duluth	Winton	J. M. Ford
Minneapolis	New Era	Reilly-Herz Co.
Ortonville	Hupmobile	Art Powell
Redwood	Reo	Farrell & Keefe
Silver Lake	Ford	A. L. Banek
Worthington	King	Ulrich Auto Co.

MISSOURI

Excelsior Springs	Hupmobile	Auto Transit & Storage Co.
Farley	Hupmobile	A. E. Fankhanel
Kansas City	Palge	Bush-Morgan Motor Co.
Palmyra	Hupmobile	C. L. Leggett
St. Louis	King	Monarch Motor Sales Co.
Springfield	Oldsmobile	Benj. Toothman

MONTANA

Ennis	Dodge Bros.	Porter Nelson
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NEW JERSEY

Bridgeton	King	David R. Mitchell
Riverton	King	Geo. M. Welmer, Auto Garage

NEW MEXICO

Place	Car	Dealer
Albuquerque	Oldsmobile	J. L. La Driere
Aztec	Dort	J. G. Black
East Las Vegas	Oakland	Vegas Auto Co.
Fort Sumner	Oldsmobile	C. Frymire
Las Vegas	Oldsmobile	Midway Garage
Magdalena	Oakland	Magdalena Mch. & Auto Co.
Raton	Oldsmobile	E. G. Love Motor Co.
Tucumcari	Oakland	M. B. Goldenberg

NEW YORK

Bayport	Oldsmobile	Wm. L. Mantha & Co.
Buffalo	Dort	A. F. Winegar
Menands	Oldsmobile	H. R. Hill
Penn Yan	Maxwell	Joseph T. Cor
Watertown	Dort	G. H. Baltz

OHIO

Akron	Chandler	Baynon Motor Sales Co.
Columbus	Maxwell	C. W. Hoffritz
Columbus	Abbott-Detroit	Geo. W. Carroll
Columbus	Lewis	Snyder Automobile Co.
Columbus	Winton	G. E. Thomas Co.
Columbus	Scripps-Booth	Broad Oak Auto. Co.
Columbus	Monroe	Winders Motor Sales Co.
Findlay	Hupmobile	G. W. Gavis & Co.
Lima	Oldsmobile	Cadillac Co. of Lima
Logan	Maxwell	W. H. Nunemaker
Marion	Oldsmobile	Barnhouse-Hemmerly A. Co.
Spratt	Dort	G. H. Gillogly
Wilmingtion	King	Bonta & Davis

OKLAHOMA

Frederick	Hupmobile	F. W. Emenhiser
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SOUTH DAKOTA

Seranton	King	D. M. Campbell
Centerville	Mitchell	Chas. Shidler & R. Smith
Emery	Oakland	P. H. McManus & Son
Turton	Ford	L. G. Mannie

Motor Car Securities Quotations

No quotations for the corresponding date in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	Sept. 11, 1915	High	Low
Ajax-Grieb Rubber Co., com.	300	300	295
Ajax-Grieb Rubber Co., pfd.	101	101	98
Aluminum Castings, pfd.	102	102	98
Chalmers Motor Co., com.	105	105	100
Chalmers Motor Co., pfd.	95	95	90
Firestone Tire & Rubber Co., com.	530	530	525
Firestone Tire & Rubber Co., pfd.	111	111	108
General Motors Co., com.	235	235	225
General Motors Co., pfd.	113	113	110
B. F. Goodrich Co., com.	61	63	60
B. F. Goodrich Co., pfd.	106	106	103
Goodyear Tire & Rubber Co., com.	284	288	280
Goodyear Tire & Rubber Co., pfd.	108 1/2	109 1/2	107 1/2
International Motor Co., com.	27	30	25
International Motor Co., pfd.	56	58	53
Kelly-Springfield Tire Co., com.	204	206 1/2	200 1/2
Kelly-Springfield Tire Co., 1st pfd.	89	91	87
Kelly-Springfield Tire Co., 2nd pfd.	200	210	195
Maxwell Motor Co., com.	42	43	40
Maxwell Motor Co., 1st pfd.	86	87	83
Maxwell Motor Co., 2nd pfd.	36	38	34
Miller Rubber Co., com.	190	194	185
Miller Rubber Co., pfd.	107 1/2	108 1/2	105 1/2
Packard Motor Car Co., com.	120	130	115
Packard Motor Car Co., pfd.	100	100	95
Peerless Motor Car Co., com.	127	140	120
Peerless Motor Car Co., pfd.	93	94	90
Portage Rubber Co., com.	46	48	43
Portage Rubber Co., pfd.	83	84	80
*Reo Motor Truck Co., com.	17	17 1/2	16 1/2
*Reo Motor Car Co., com.	32	33 1/2	31 1/2
Stewart-Warner Speed. Corp., com.	65	66	62
Stewart-Warner Speed. Corp., pfd.	105	107	102
Studebaker Corp., com.	114	115	110
Studebaker Corp., pfd.	105	106	102
Swinehart Tire & Rubber Co.	88	90	85
U. S. Rubber Co., com.	48 1/2	50	46 1/2
U. S. Rubber Co., 1st pfd.	137 1/2	137 1/2	135 1/2
White Co., pfd.	110	110	107
Willis-Overland Co., com.	187	188	183
Willis-Overland Co., pfd.	107 1/2	108	105 1/2
Palge-Detroit Motor Co.	450	450	440
Regal Motor Co., pfd.	21	21	20

*Par value \$10; all others par value \$100.

Coming Events

*Indicates sanction by A. A. A.

Sept. 18	Providence, R. I.—Speedway race meet, Narragansett Park Speedway.*
Sept. 20-21	Rockford, Ill., Fall reliability run, Rockford Motor Car Dealers' Assn.
Sept. 20-25	San Francisco, Cal., International Engineering Congress.
Sept. 25	Chicago, Ill., "Get-together" meeting, Chicago Garage Owners' Assn.
Oct. 1-2	Trenton, N. J., Track meet, Inter-State Fair.
Oct. 2	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
Oct. 2	New York—Speedway race meet, Sheepshead Bay Speedway Corp.
Oct. 4, 5 and 6	Columbus, O.—State convention; Columbus Garage Owners' Association.
October 7	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.
Oct. 8-9	Peoria, Ill., Convention of Garage Owners' Assn. of Ill.
Oct. 9	Indianapolis, Ind.—100-mile Invitation Race, Motor Speedway.
Oct. 16	Chicago—Speedway race meet, Speedway Park Association.*
Oct. 18-19	Cleveland, O.; Hotel Statler; Sixth Annual Convention, Electric Vehicle Assn. of America.
Oct. 20-22	Excelsior Springs, Mo., quarterly meeting National Assn. of Automobile Accessory Jobbers.

THE SHOW CIRCUIT

Sept. 13-17	Milwaukee, Wis.; show at State Fair by Milwaukee Automobile Dealers, Inc.
Sept. 18-25	Los Angeles, Cal.; Broadway Automobile and Flower show, Automobile Dealers Assn.
Sept. 22-25	Reading, Pa., show, Hotel Berkshire.

Sept. 27-Oct. 10	Denver, Col.; show, International Soil Products Exposition, Automobile Trades Assn. of Colorado.
Oct.	Dallas, Tex.; show, Dallas Automobile Dealers Assn.
Oct. 2-9	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
Oct. 3-10	Annual show, St. Louis Automobile Mfgs. & Dealers Association.
Oct. 4-9	St. Louis, Mo., ninth annual show, St. Louis Automobile Manufacturers' and Dealers' Assn.
Oct. 4-14	Wichita, Kan., show, Wichita Auto Dealers' Assn.
Oct. 6-16	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Oct. 16-23	Pittsburgh, Pa., Eleventh annual show, Motor Square Garden, Automobile Dealers Assn. of Pittsburgh.
Oct. 18-25	Troy, N. Y., show, Armory; Troy Automobile Dealers' Assn.
Nov. 1-3	Pasadena, Cal.; show; Hotel Green. Walter Hempel.
January 1-8	New York, N. Y. Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
Jan. 8-15	Philadelphia, Pa., show, Philadelphia Automobile Trade Assn.
January 22-29	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
Jan. 29-Feb. 5	Minneapolis Winter Show; Minneapolis Automobile Trade Assn., National Guard Armory.
Feb. 15-20	Omaha, Neb., 10th annual show, Omaha Automobile Show Assn.
March 4-11	Boston, Mass.—Fourteenth Annual Show; Boston Auto. Dealers Assn.; Boston Commercial Vehicle Assn.
Sept. 21-24	Cleveland, O.—Convention, Carriage Builders National Assn.

MOTOR WORLD

THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 12

New York, September 22, 1915

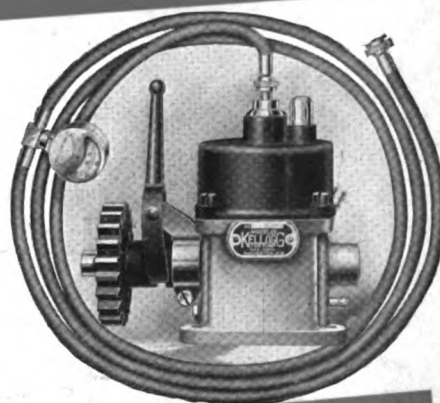
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Not This Way

Service is What Counts

Kellogg Pumps in various types have been giving faithful service for the past seven years, and have always been recognized as the leading engine driven tire pumps. During the past year this leadership has been strengthened with the all metal models of the



Engine-Driven KELLOGG Tire Pump

Model 101 for Most Cars.. \$15.00
For Dodge, Chevrolet,
Maxwell 10.00
Special Outfit for Ford..... 9.50
All complete with attachments

Dealers who sell cars with the Kellogg standard equipment tell you why the car owner is always pleased with the Kellogg pump. Superior attachments, the convenience of starting the pump while the motor is running, filling of tires in less than two minutes with cool, clean air—no oil spray—and the wonderful saving realized in keeping tires up to pressure:—All these things experienced by car owners mean increased sale of Kellogg Pumps each season.

Importance of Well-Designed Attachments

Many pumps have been placed on the market to meet a demand created by the Kellogg Pump. Most of them have failed because attachments were not properly designed. Made of inferior material, pumps can not give service. Kellogg Pumps are a permanent part of power plant through the use of properly designed and properly made attachments.

The leading motor car manufacturers now plan for Kellogg Pumps. Many manufacturers who do not furnish the pump as standard equipment instruct their sales agents to acquaint their owners with the fact that there is a place for the Kellogg Pump.

Dealers:

Your customers demand the best engine driven tire pump. Recommend the Kellogg which can be installed with the least amount of labor.
Sell a pump which has made good—so good that more have been sold than all other makes combined.
Send names and models of old and new cars you can equip. Let us give you folders, hangers and newspaper electros.

Write us for full particulars including list of cars for which we furnish equipment

KELLOGG MFG. CO., 239 Circle St., Rochester, N. Y.

USED by all motor car manufacturers who select by testing---

by all dealers and repair men who have looked carefully into the subject of brake lining---

by all car owners who have compared wearing qualities---

That's

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Philadelphia—N. A. Petry Co., Inc., 1309 Race Street

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San Francisco—Fred Ward & Son, Inc., Corner First and Howard Streets

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*Sleeve
Valve
Motor*

The Coupe With Noiseless Motor

\$1500
f. o. b. Toledo

The Willys-Knight Coupe is by far the most desirable closed car of the season.

The famous Knight type motor is quiet and vibrationless because it has sleeve valves. Standing right next to the hood one can scarcely tell whether or not it is running. Thus you get the absolute quietness of an electric plus the usefulness, service and unlimited mileage of a high powered automobile.

This coupe has charm and beauty. Soft gray Bedford cord cloths line the interior.

The graceful coach design is finished in a dark tone of deep Royal blue. Inside and out you will find exquisite smartness.

Any woman can drive this car.

The Willys-Knight coupe will be the popular car among womenfolk for the coming season.

The production of this model is limited. Orders placed immediately will receive preference.

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Limousine
\$1750
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Also Manufacturers of the famous Overland Automobiles.

When writing advertisers please mention Motor World

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, September 22, 1915

No. 12

Milwaukee's Fair Show an Example for the Country

Organization and System Bring Order Out of Chaos— Dealers Enthusiastic for the Autumn Exhibition

MILWAUKEE, Sept. 18—It has fallen to the lot of the Milwaukee Automobile Dealers to tell the entire country how to conduct a motor car show at a fall fair. This has been fall fair week in Milwaukee, the state fair being held here all week.

Good Business Show

During the week the motor dealers of this city have staged one of the best shows ever held in the state from a business viewpoint, and tonight the dealers, instead of being dissatisfied with the fall fair as they were a year ago, were happy and so pleased with the fall fair as a place for a proper motor car show that if it were put to a vote whether to do without the January motor show in the city or the show at the fair grounds, there would be a majority vote in favor of the fall fair show.

And this is merely because the motor show at the fair grounds this week has been properly conducted. For 7 years the dealers have been exhibiting cars at the fall fair in a half-hearted manner, not very pleased and only exhibiting because, if the city of Milwaukee is left out, 85 per cent of the cars sold in the state of Wisconsin are sold to farmers. Farmers make up the majority of the attendance at the fall fair; so as the Milwaukee dealers reasoned, this fall fair

should be the real place to exhibit 1916 cars, but it must be done properly. Here was how it was done.

The fair grounds in Milwaukee are typical ones, located well outside of the

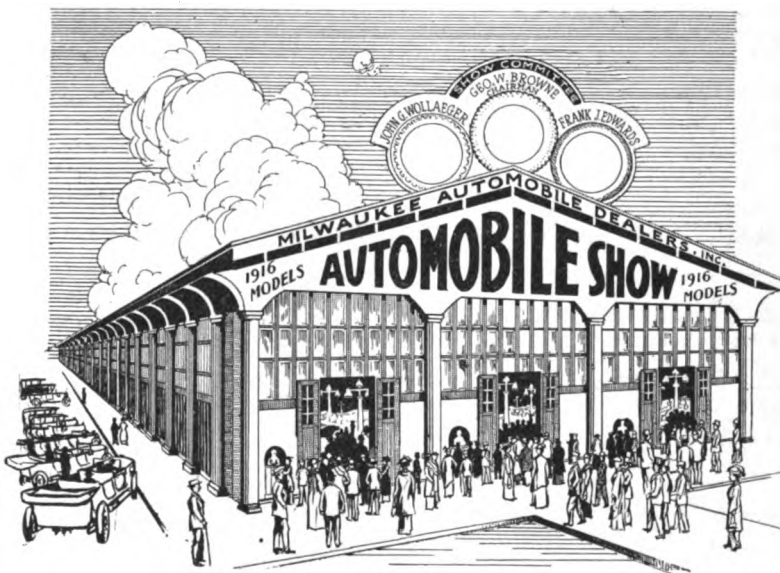
feet from the ground, with a manure spreader at one side of them, a traction engine in front of them and a hit-and-miss gasoline engine at their left, making it impossible sensibly to talk sales and cars to customers.

To get matters right, Chairman Browne and other members of the association, including President Frank Edwards, Kissel and Dodge dealer, went before the State Board of Agriculture and told them what had to be done for the motor exhibit at the fair. This is what they wanted:

Sides Added to Roof

The cement roof, already referred to, covered a cement floor 350 x 150 feet. If sides were added there would be an ideal inclosed building, offering over 50,000 square feet of floor space, the best in the state fair grounds for a motor show. The State Board of Agriculture

agreed to erect the cement and glass walls at a cost of \$6,000 and turn the building over entirely to the Milwaukee motor car dealers for \$3,000, with the provision that the dealers should have absolute control over all motor car and motor car accessory exhibits in the fair and further that they could charge the nominal fee of 10 cents to get into the motor car show, all other exhibit buildings in the fair grounds being open to



The Milwaukee Automobile Dealers, Inc., staged their show in one large building; doors were left open but a 10-cent admission kept out the riff-raff

limits of the city, so that if you go by trolley you pay 7 cents, if by jitney, 25 cents, and by taxi anything from a dollar up. The Milwaukee dealers, under the leadership of George W. Browne, chairman of the Milwaukee Automobile Dealers show committee, and Overland distributor for the state, made up their minds they would not have a show like previous ones of motor cars, in which they were under a cement roof about 20

all. This was agreed upon, contracts were signed and the dealers started to boost for a real motor car show.

That they succeeded has been more than demonstrated by the interest in the show all week. Every day more than 40 per cent of those who paid to get into the show grounds have paid the extra 10 cents to get into the motor car show. The motor car show has been the real attraction of the fall fair. It has by long odds been the only real exhibit. Charging 10 cents for admission has been a success. It has kept the riffraff out. Those really interested in motor cars, motor trucks and accessories have entered. The show has been as orderly and high-class as any winter show. Over 60 makes of gasoline and electric passenger cars, three or four makes of gasoline trucks and 20 accessory exhibitors had spaces. Only 1916 gasoline passenger car models were shown, and the decorations erected by the dealers, the music produced by two bands and all show regulations were on a par with those of the January show in this city in the big auditorium.

Was a Real Business Show

This week's show has been a real business show. Cars have been sold, many prospects have been discovered, and the business done in closed cars has been exceptional. Car sales have been made to scores of small towns throughout the state. Milwaukee distributors, who have the control of the entire state, have had from 50 to 100 dealers in. There have been dealers' dinners and dealers' business talks. Many new dealers have been appointed, and, best of all, these dealers have contracted for

DEALERS WHO EXHIBITED

Velie Motor Car Co., Velie.
Lauson-Salentine Co., King, Allen, Hollier.
Milwaukee Auto Sales Co., Briscoe, Argo.
Cole Motor Car Co., Cole.
Hughes Motor Car Co., Empire, Stripp-Booth.
Imperial Auto Sales Co., Imperial.
Curtis Automobile Co., Reo.
Motor Supply & Mfg. Co., Auto Bodies.
Stegeman Motor Car Co., Worn Drive Trucks.
Ford Motor Exchange, Auto Bodies.
Diener-Nelson Co., Haynes, Grant.
Sanger Automobile Co., Franklin.
Jesse A. Smith Auto Co., Hudson, Detroit Electric.
Jonas Automobile Co., Cadillac.
Creek Motor Sales Co., Apperson.
Reeke-Osmond Motor Car Co., Jeffery.
Hoppe-Hatter Motor Car Co., Chalmers, Rauch & Lang Electric.
The Winton Co., Winton.
Geo. W. Browne, Overland, Willys-Knight.
Schreiber-Boorse Motor Car Co., Chandler.
John G. Wollaeger Co., Studebaker.
Buick Motor Co., Buick.
Regal Motor Car Co., Regal.
Mitchell Automobile Co., Mitchell.
Ford Motor Co., Ford.
Kissel Kar Co., KisselKar.
Edwards Motor Co., Dodge.
R. D. Rockstead, Paige, Saxon.
Pullman Automobile Co., Pullman.
Frint Motor Car Co., Chevrolet, Oldsmobile, Monroe.
Edgar F. Sanger, Hupmobile, Stearns-Knight.

cars which are for immediate delivery. It has not been a case of the new dealers putting off the placing of actual orders for a month or two, as is the case with the January show. Now is a good time for the dealers throughout the state to make sales and deliveries. The farmers have finished harvesting. Some have sold their crops and got the money in the bank. They know how much money they have to spend. There are three

good months ahead of them in which they can use the new car. The slack season of the year is ahead of them. It is a good time to buy a car. In the spring they are very busy sowing crops. The dealer has a much better chance with the farmer and the small-town buyer in September and October than in February and March and April. If the dealer waits until spring the farmer will have spent a good part of his money in farm machinery, etc. Today the dealer has an even chance with all of the farm implement agents and others who are looking for some of the crop money.

And the Milwaukee dealers have made a little money out of the show. Members of the dealers association will perhaps get the money returned that they paid for exhibit space. They charged 25 cents a square foot for space, the average dealer paying \$110 for his space, those taking double spaces paying \$220 and a few paying over \$300 for large spaces in which a dozen cars were shown. Before the show opened the dealers had taken in over \$1,600 for exhibit space. On Wednesday there were 6,500 paid admissions to the motor car exhibit, giving a revenue of \$650 for the day, which was 42 per cent of the paid attendance into the grounds of the fair. Thursday was Milwaukee day and the attendance went much higher. Approximately 30,000 visited the motor show during the week, giving a revenue of \$3,000.

The total cost of staging the show was about \$4,500. This was made up of \$3,000 paid the fair association, and other money spent for advertising throughout the entire state and also to pay for the helpers in the building, such as ticket sellers, doormen, sweepers, electricians, carpenters, etc.

Motor Tour Advertising

The advertising scheme of the dealers was a motor tour through the state, which was carried out several weeks ago. In this tour over 42 towns and cities were passed through and the dealers distributed literature on the fair and also on the motor show. They took a brass band on the tour. It played in every city, town and village. It was a grand advertising scheme. In addition the dealers covered 300 billboards, advertising the fair and motor show. These were in every city, town and village. They cost \$1,050, but proved a good investment.

With such a preparation and such a show is it any wonder that new life was injected into the show and is it any wonder that the dealers are smiling tonight, happy after a week of real good business in spite of rainy weather that marred the attendance on several days? Organization and cooperation did it all.

Hear what a few of the dealers think of the fall fair motor car show:

F. Edwards, Kissel and Dodge dealer

VELIE	KING, ALLEN	BRISCOE, ARGO	COLE	EMPIRE, STRIPPS-BOOTH	IMPERIAL	REO	AUTO BODIES	STEGEMAN DRIVE TRUCKS	AUTO BODIES	KISSEL KAR TRUCKS	
1	2	3	4	5	6	7	8	9	10	11	12
HAYNES	GRANT	FRANKLIN	HUDSON	DETROIT ELECTRIC	CADILLAC	APPERSON	APPERSON	JEFFERY	JEFFERY	CHALMER, RAUCH & LANG ELECTRIC	WINTON
13	14	15	16	17	18	19	20	21	22	23	24
OVERLAND	WILLYS-KNIGHT	OVERLAND	CHANDLER	STUDEBAKER	STUDEBAKER	BUICK	BUICK	REGAL	MITCHELL	MITCHELL	FORD
25	26	27	28	29	30	31	32	33	34	35	36
M. A. D.	KISSEL KAR	DODGE	PAIGE	SAXON			PULLMAN	CHEVROLET	OLDS-MOBILE, MONROE	HUP-MOBILE	STEARNS-KNIGHT
37	38	39	40	41	42	43	44	45	46	47	48

Aisles were broad at the Milwaukee Automobile Dealers' show at the State Fair and all exhibit spaces were a uniform size. Each was plainly marked to make its identification easy

and president of the Milwaukee Automobile Dealers, Inc.: "It is the best business proposition I have ever bumped into at a show. I did more business during the first two days of the show than in the whole week of the winter show. We are selling cars and getting prospects for the city and also for the entire state. Now is the best time of the year to catch the farmer. He is through with the crops and has plenty of money. Farmers and business men from small towns and cities around the state are buying now and want immediate deliveries. The demand for closed cars and those with detachable tops is heavier than ever before. Outside of Milwaukee 50 per cent of our business is to farmers. If it came to vote as to whether we dropped the winter show in January or the fall fair show I would vote with both hands to continue the fall fair show. The attendance this year is good. Next year it will be better. It has been an experiment this year, but show visitors will go home and tell about the motor show and will come back in greater numbers a year hence."

N. E. Osmond, Jeffery: "There are 64 Jeffery dealers from the state attending the show and many of them have brought prospects with them."

Edgar Sanger, Hupmobile and Stearns: "This show is away ahead of the January one in the Auditorium. We are getting prospects who want cars right now. The farmers all want quick deliveries and that will cause a little trouble with some concerns that cannot make them. The demand for closed cars is growing; in fact, the demand for the detachable top is unprecedented. A car without a winter top is today much the same as a person wearing an overcoat but without gloves. Seventy-five per cent of my retail sales are cars with detachable bodies. This is a much better season to place dealers than in January."

W. H. Hathaway, district representative, Cadillac: "The fall is the best season of the year to sell the Wisconsin farmer. In the spring he is too busy sowing the grain and tilling the soil. This has been a particularly good year with the Wisconsin farmer, as all crops excepting corn have been good. This is the best season of the year to sell closed cars, and the January show is entirely too late for closed car sales. October to January are the months for selling closed cars, and this year the closed car business is being worked in small towns around the state. We sell one-third of our cars in the state to farmers. One dealer in a town of 1,500 has taken seven cars for 1916."

H. W. Bonnell, Mitchell: "At present the country business around the state is ahead of the city business and the fall fair is the best place to round up this country trade. Over 40 dealers from the state are at the show with prospects."

Mr. Grafter, Winton: "Crop conditions have been good throughout the state and bankers and business men in towns of 1,500 and over are in good humor and are buying cars better than ever before. There is a perceptible demand for cars with special colors, there being many evidences that brighter colors are going to replace the sombre black of the past few years. More limousines are being sold than ever before."

H. J. Millmann, Stegeman truck: "We get three or four times more prospects at the fall fair than we do at the January show. We do not expect to sell

THE TICKETS THAT ADMITTED TO THE SHOW

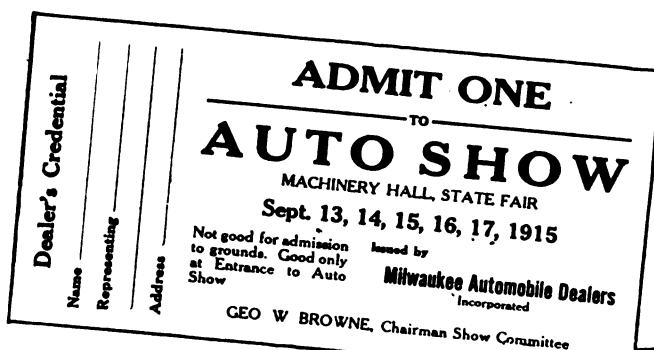


Fig. 1—Visiting dealers to the show were given credential tickets. These gave unlimited admissions to the motor show but were not good for admission to the fair grounds

Fig. 2—Press tickets were given because of the Government road exhibit; no one could be refused a ticket to see this exhibit and no charge could be made

Fig. 6—Lower—A brass tag was attached to each demonstrating car, which must use a special gate and be checked



Fig. 3—Demonstrators were given a card when they drove out on which was marked the number of their ticket book (Fig. 5) and the number of passengers. The book was taken up and surrendered again when the demonstrator returned

Fig. 4—Each exhibitor was given exhibitors' tickets which admitted to the motor show but not to the fair grounds



trucks at this show but we do get prospects. We are going to exhibit at one or two of the best county fairs in the state. The city markets are overcrowded and there is better business with the out-of-town people in the smaller places whom you meet at the fall fairs. Our sales throughout the state are three times what they were last year."

George W. Browne, Overland: "We have a 600 per cent increase in enclosed car business over last year and the fall fair comes at a time when this closed car business can be properly presented to the buyers. Our state dealers are all at the show, many of them with many prospects."

Machinery That Ran Show Easily Operated

Elaborate But Simple Ticket System Covered Every Contingency—Demonstrating Easily Controlled

THE necessary machinery for conducting a motor show in a fall fair such as the Milwaukee one is not difficult, George W. Browne, chairman of the show committee, and his secretary looking after the entire show. There are three lady ticket sellers, who get \$1.50 per day each; the four doormen get \$2.50 per day each; four sweepers

get 20 cents per hour; the carpenter foreman gets \$4 per day and the electrician the same. Not over \$50 covers the sign work for the entire show, each exhibitor paying his share.

The signs are small ones, painted on the wood columns supporting the electric lights. There is no insurance, each exhibitor caring for his own exhibit. At

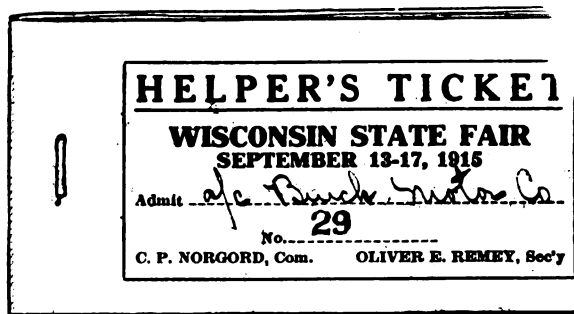


Fig. 5A—The tickets in the demonstrator's book gave him admission to the show each day. Each book was numbered and a careful record kept of it. The demonstrator's card was destroyed when the book was returned in exchange for it

Fig. 5 — Demonstrators were given a ticket book with tickets of different colors for each day. When they took a party out the book was exchanged at the gate for a card (Fig. 3). The book was returned in exchange for the card when the demonstrator returned



each end of the building are two bands of six pieces each, giving all the air of a mid-winter show. The electric lights, of which there are 800, cost \$317. The same pillars which were used in the January show are used.

The question of making demonstrations on the roads outside of the fair grounds was solved by the fair management setting aside a special gate in which the demonstrating cars could go in and out. Each of these cars carried a small circular brass tag, Fig. 6, attached to the car by a lead seal affixed by the state fair. These brass tags were numbered numerically, two, three or more being issued to each dealer, as needed, and these checked each time a car left or entered the fair grounds. Each driver of a demonstrating car when he left for a demonstration was given a card, Fig. 3, on which was entered at the show office the number of passengers taken in his car and also the number of his ticket book, Fig. 5. This ticket book contained five tickets, Fig. 5A, one for each day of the show, and when he received the demonstration ticket, Fig. 3, he had to deliver his ticket book, Fig. 5, to the show management. When the demonstration was over he returned the demonstration card and was given back his ticket book. The demonstration card was then destroyed. When he entered the fair grounds the first time each day a ticket, Fig. 5A, was taken out of the ticket book, but when entering each time after a demonstration the demonstration card admitted him to the grounds together with his party.

Each exhibitor was given exhibitor's tickets, Fig. 4, which admitted to the motor car show only but not to the fair grounds. These tickets were sold to the dealers at 10 cents each and given away to prospects to insure their coming to the motor show if they attended the fall fair.

Visiting dealers attending the show were given credential tickets, Fig. 1. These tickets gave any number of admissions to the motor show but were not good for admission to the state fair grounds.

The exhibitors at the motor show received tickets of admission to the fair grounds the same as other exhibitors, such as those showing road making machinery, etc.

Press tickets, Fig. 2, were issued because the United States Government had its road exhibit, and according to the regulations any person wanting to see this exhibit and requesting the fair management was given one of these tickets so that he had not to pay to see the government road exhibit.

Better Method Possible at Syracuse State Fair

All Exhibits Under One Roof Would
Have Brought Better Results—Gardiner's Used Car Exhibition
Feature of the Show

SYRACUSE, N. Y., Sept. 18—The dealers of this city want a real automobile show in connection with the New York state fair which is held here every year. As yet they have not had one, though they hope to have one in 1917 provided plans at present in embryo mature. The show this year is a small one and the results which have come from it to date are not all that the dealers could desire. About a dozen dealers exhibited in tents in various parts of the great fair grounds, and two dealers, Buick and Overland, had spaces in one of the big buildings.

The bright particular feature of the show was an exhibit of used cars staged

by Secretary Harry Gardiner, of the Syracuse Automobile Dealers' Association. For his exhibit, Gardiner rented a tent 40 x 70, divided it into 17 spaces, and then divided the cost of the whole venture, including rent of the tent, cost of the space at 1 cent a square foot, which was the regular rate for space in the fair grounds, cost of advertising, etc., by the number of spaces. This brought the cost per space in the tent to \$17. Members of the association were offered these spaces at this figure for the exhibition of used cars and every space was taken. It was agreed between the dealers and Gardiner that Gardiner was to receive a certain salary for his work in looking after the exhibit and also a commission of 5 per cent on all cars sold.

Both Gardiner and all the dealers who exhibited expressed entire satisfaction with the used car show. During the first three days of the show four cars were sold and a number of live prospects were lined up.

The exhibition of new cars made by the various dealers was not in any sense an association venture. The various exhibits were made individually by the dealers and the dealers' association had nothing to do with it. In consequence, the exhibits were more or less widely separated; there was nothing on the general program nor any signs to indicate their whereabouts.

That the exhibit would have been a better drawing card and the results would in all probability have been better had the show been staged as a unit under one roof is the consensus of opinion. As it was, dissatisfaction was expressed over the necessity for displaying cars in tents with the consequent possibility of damage to the tent from windstorms and the impossibility of keeping the cars bright and clean, due to the absence of any flooring and the proximity of cattle and very busy farming machinery. Another great trouble which prevented talking with prospects was the noise from the myriad of farm gasoline engines, which are never idle at a state fair.

With regard to the value of an exhibit at any state fair, most of the dealers were agreed that it was good from an advertising point of view but that not a great deal of business results. The impression prevails that the value of such an exhibit to a dealer is almost directly proportional to the size of his territory; that a dealer with a large territory will benefit to a greater extent than a dealer with a small territory, for the reason that the show draws from the whole state and therefore brings in many prospects which do not rightfully belong to the dealer with a small territory.

That the value of the show would be greatly increased by having it under a permanent roof is agreed, and J. F. Sta-

(Continued on page 15)



For the 100-mile event the 14 starters were sent once around for a flying start. The track is an old horse track that has been asphalted and the turns banked

Rickenbacher Wins Providence 100-Mile

Maxwell Pilot Makes Up Three Laps and Speeds Under Wire at 67 m.p.h.
—Burman Second to Finish and Haupt Third

PROVIDENCE, R. I., September 18 —Eddie Rickenbacher, driving one of the Maxwell racing cars, won the most sensational motor event ever seen in New England when he captured the 100-mile contest here today, averaging 67.11 miles per hour. He came from behind and by sensational driving made up lost miles and then swept into the lead. His time for the 100 miles was 1 hour, 29 minutes and 24.75 seconds. This is claimed to be a new record for the distance on a one-mile track, the old record having been held by Tom Alley in a Duesenberg, made at Minneapolis in 1914 and which was 1 hour, 31 minutes and 30 seconds. Another record claimed to have been made was that for one mile by Bob Burman before the race started when he circled the track in 45.73 seconds, the 46.20 made by Louis Disbrow in St. Louis a year ago having been the best previous mile on a one-mile track.

Three Laps to the Bad

When Rickenbacher swept past the finish he was nearly three-quarters of a lap ahead of Burman and he had lapped all the others, some of them several times. That the Maxwell man would win was not thought of after he was forced to stop in the 15th mile and the leaders gained 3 miles on him. First prize was \$4,000 and when Rickenbacher was assured of it he was given a mighty cheer. In fact he was repeatedly cheered as he showed his skill and gained yard by yard on the leaders. Those who saw

the race and had been to other big events declared that 100 miles was really the best distance to awaken enthusiasm, for had the contest gone 150 miles or more it would have lost interest with every additional mile.

An Impregnable Fence

The races were staged on the new Narragansett Park track, an old horse-track that has been asphalted. The curves are banked about 25 degrees. The track is some 50 feet wide and all around the outer and inner edges there are rails made of railroad track iron clamped to wooden posts sunk in the asphalt. There is no possibility for any car to go through this fence. It was stated by F. E. Perkins, head of the Narragansett Park Track Co., that there were 40,000 people present. To the Motor World man it seemed as if the attendance was nearer 20,000.

The big race, the 100-mile event, was started shortly after 3:30 p. m. There were 14 entrants as follows:

Eddie Rickenbacher.....	Maxwell
Bob Burman.....	Peugeot
Peter Henderson.....	Duesenberg
Ira Vail.....	Mulford
Ralph De Palma.....	Stutz
Jack Le Cain.....	Pugh Bros. Special
Willie Haupt.....	Duesenberg
Jack Cleary.....	Bugatti
Joe Dickenson.....	Stutz
Walter Jones.....	Peugeot
J. A. Myers.....	National
L. Stricker.....	Erwin

Harry Grant..... Sunbeam
Eddie O'Donnell..... Duesenberg

The cars were lined up in two rows of five and one row of four, with about 10 yards between each row. They were sent around for a flying start and they kept well together so that they got the flag on the first time around. Then the race was on in earnest. And from beginning to end of the 100 miles only four of the contestants did not stop, Burman, De Palma, Haupt and Jones. The asphalt seemed to wear the tires, particularly as they went around the banked curves, where the cars bounded a bit, showing the track was somewhat rough.

Won an Up-hill Fight

The weather was ideal for the race, cool and bracing, but it had been so extremely hot during the tryouts of the previous days that the carbureters had to be adjusted and some stops were necessary for this. Nearly all the cars used Goodrich Silvertown Cords.

No driver of a motor car, or for that matter the handler of any sporting craft, ever won a better up-hill fight than Rickenbacher. He shot into the lead on the first lap, but was crowded back into third place before the second mile ended. There he held his place, watching the speed of the others and always within 50 feet of the leader.

But he had to stop in the 15th lap with carbureter trouble. Before he got going the leaders had passed around

TIMES OF FINISHERS IN PROVIDENCE 100-MILE RACE, SEPTEMBER 18

Car	Driver	Miles	10	20	30	40	50	60	70	80	90	100
Maxwell	Rickenbacher		9:04.05	20:44.66	28:39.80	37:53.25	46:20.80	54:55.25	63:22.95	71:43.70	80:10.45	89:24.75
Peugeot	Burman		9:02.95	18:10.75	27:18.15	36:22.73	46:11.75	55:07.15	63:59.25	72:45.35	81:46.75	91:21.55
Duesenberg	Haupt		9:27.60	18:43.8	27:54.65	36:52.40	45:54.65	56:11.25	65:09.25	74:06.95	82:58.25	91:24.25
Stutz	DePalma		9:02.20	18:09.10	27:17.75	36:19.25	46:10.45	55:10.70	64:11.60	73:23.30	82:26.90	91:42.70
Duesenberg	Henderson		9:05.60	18:11.35	27:19.35	36:28.10	46:06.65	54:54.65	64:07.05	73:15.75	82:23.95	92:25.35
National	Myers		9:17.95	18:15.95	28:41.60	37:41.53	46:40.30	57:57.60	66:56.35	75:57.20	84:44.60	93:42.50
Mulford	Vall		9:16.85	18:26.80	28:55.40	38:04.70	47:05.55	56:07.60	66:08.65	75:27.20	86:12.95	95:36.25

three laps. So it seemed as if it was all over for him. De Palma and Burman had run away from the field in the 25-mile race, but Rickenbacher was not in that event. Therefore it was supposed to be a foregone conclusion that Burman would get the big prize with De Palma second.

Rickenbacher cut loose, however, and very soon it was apparent that the little car with 1 on its radiator was coming around very frequently. First it was noticed that it had regained the laps lost to the tailenders of the field. Then when 33 miles had been covered he had won back a lap, the leaders being 33 and Rickenbacher 31.

De Palma Spurted

Moreover, the others who had passed him were relegated back to the rear and he was in third place. So the race began to grow more interesting. De Palma then started a spurt and he whirled past Burman and began to try to lengthen out the distance. But he could not get very far. Burman was always within 10 yards of him. The way Rickenbacher was driving began to worry the leaders, however, and they kept looking back every time they flew down the stretch.

De Palma had the lead in the 37th mile and from that time to the 57th, or a distance of 30 miles, he kept in the van. But every time he and Burman made a mile in 54 or 55 seconds Rickenbacher did it about 50 or under. So he continued to cut down the lead. Before 50 miles had been reached he had circled all the others again and so they were then but one mile ahead of him.

Burman then began to show signs of speed and he began to tear away from De Palma, having passed into first place on the 58th mile. And each mile while Burman was leaving De Palma behind Rickenbacher was gaining on both. The spectators then began to sit up and shout. And the shouting encouraged Rickenbacher, for he smiled.

The car would roar down the track with the driver laughing and nodding to his pit attendants, who held up blackboards telling him how fast he was going, his position, etc. Having evened up matters it was then his plan to get the lead. De Palma was the first he went after, and when he had swung over

the line on the 72nd mile and the cars tore around the first quarter Rickenbacher went into second place.

On Burman's Heels

It was now Burman only that separated him from first place. Then the real race began. One hardly realized that the Maxwell had passed when it was around again. It came so fast that people mistook it for some other as they asked where it was, not knowing it passed. A few times Rickenbacher was pocketed by some of the others, and to see the way he wiggled through without slowing up was amazing.

When the cars came whirling down for the 73rd mile it was seen that Rickenbacher was closing up on Burman. The latter passed over the line 5 seconds ahead. There was no question then of the outcome, it seemed. On the next lap they tore down side by side and it seemed as if Rickenbacher was playing with Burman. On the next mile they crossed the line with Burman 4 feet in the lead. For two more laps they swung around side by side, and then entering the 77th Rickenbacher seemed to infuse new life into his car and he shot into first place. When he went over the line on that mile he was 9 seconds ahead of Burman.

Meanwhile De Palma seemed to have lost heart and he was slowing up. As they went around on the 80th mile Rickenbacher was close to De Palma and on the next mile had passed him, giving him a full lap lead on him, thereby making up four laps in about 65 miles.

Rickenbacher Wins!

Meanwhile his lead over Burman increased, and at 85 miles he was 27 seconds ahead, which was equal to a little more than half a mile. The spectators began to expect him to lap Burman then. But when he had gone 90 miles and was about three-quarters of a mile ahead he began to slow down and drive safely. Burman was trying to make up the lost distance, but could not do it.

Willie Haupt then came along and passed De Palma. So as it neared the 100 miles everyone was certain of Rickenbacher's win. And he crossed the line amid a great ovation with 1 minute and 1 second to spare. Burman finished second, Haupt third, De Palma fourth.

There were eight starters in the 25-mile race and it proved a jockeying match between Burman and De Palma, neither getting far in the lead at any time. Finally Burman shot over the line 50 feet ahead of De Palma, with Haupt third and Jones fourth.



A view of the stretch on the Providence track, showing the pits and the crowd within the mile enclosure

Why the Twelve-cylinder Motor

J. G. Vincent, Packard Engineer, Makes Plain the Reasons
for Its Adoption and Tells Its Advantages

DETROIT, September 20—The great interest which the engineering fraternity is taking in the newest of multi-cylinder engine types—the twelve—was shown here tonight in the remarkable attendance at the meeting of the Detroit Section of the Society of Automobile Engineers when J. G. Vincent, vice-president of engineering, Packard Motor Car Co., presented a paper discussing the twin-six motor.

Vincent told in his paper in a concise and logical manner the reasons why the Packard company came to adopt the twin-six. In attacking the subject Vincent first quoted from a report which he made to the officials of his own company, setting forth to them the results of careful experimentation and giving the details and arguments which he used in bringing about the final adoption of the twin-six by the Packard company. This is followed by a discussion of the forces due to inertia which must be dealt with in engine design, explaining how they cancel out in the twelve if properly designed. He said in part:

"For a long time, the six-cylinder motor seemed to fill the bill completely, but as we have refined every detail of the car step by step, it has gradually been brought home to me that the comparatively smooth result we have been getting from six-cylinder motors is not the final answer. This subject is so vital, I would like to analyze it as follows:

Torque of Six Not Perfectly Smooth

"In the first place, it is easy to see that the force of an explosion must be in proportion to the volume of gas exploded, so that the punch given to the piston and the corresponding recoil kick on the cylinder is greater as we make the cylinder larger. With the six-cylinder motor running slowly, as when pulling slowly through traffic on high gear, it is possible to feel each kick, each effort, as the charge is fired in one cylinder after another. A four-cylinder will not run so smoothly because there is a pause between each explosion, but in a six the explosions overlap a little. Still, when the accelerator pedal is depressed, the push, push, push of each successive explosion can be felt by every occupant of the car.

"As the speed rises, this sense of effort disappears, as the explosions follow faster on each other, but in most sixes we reach a point where there arises distinct vibration. This comes from a different cause, namely, the weight of the pistons, and it is more difficult to overcome as we make the engine larger.

"Now, if we had a big piston, the explosive force on the large area of its head is very great and it may even be great enough actually to twist the crankshaft a little, supposing the driving resistance of the car is enough to hold the flywheel rigid, so to speak, against the effort of the explosion in the front cylinder. This effect does actually occur in big sixes unless the crankshaft is very big in diameter and this means weight. Also to eliminate all spring in a shaft so that it can cancel out the forces due to the reciprocation of the pistons apart from the explosion, calls for stiffness and weight in the

crankshaft, while it also demands a heavy crankcase, so that the bearings for the crankshaft may hold up rigidly against any tendency of the shaft to whip or bend.

"These may sound like very small things, but they are very large in effect and many an engineer has had sleepless nights seeking the cause for some irritating vibration in his six. In almost all cases, the answer is the same, i. e., more weight in the crankshaft and crankcase.

"There is another and a better answer, and that is, less piston weight and smaller explosions.

"However, we want the ability—we not only want the present ability, but we want a greater range of ability. So the only way out is to have more pistons. As soon as we try the effect of many light pistons of small size, and many explosions of small intensity, we find that we have obtained other advantages. For instance, the need for a flywheel is to carry the crank on while there is no explosion to drive the car, and even in a six there is a considerable variation of effort between one explosion and the next. Using many small pistons so as to get a motor of the necessary total size and power, we have saved piston weight, saved crankcase weight, saved crankshaft weight, and now we find we can cut the flywheel weight, too.

Twelve Cylinders Give Maximum Ability

"Now in regard to how far it pays to go in the number of cylinders, let us consider the possibilities of the twin four type of motor, as this is a type that had received considerable attention and seems to be the next logical step after the six.

"For the purpose of comparison, let us consider that we desire a motor of about the same cubic inch piston displacement as our Packard 338 six-cylinder motor, which is 4-inch bore by 5½-inch stroke and contains 414.7 cubic inches. It would be entirely practical to design a twin four motor of practically this same cubic-inch displacement within the above-mentioned desirable bore-stroke limits; in other words, a motor of 3 7/16-inch bore by 5¼-inch stroke will contain just over 53 cubic inches per cylinder, or a total of just over 424 cubic inches. Such a motor of proper design and workmanship would have certain advantages and disadvantages when compared with our 38 six-cylinder motor. I will outline them briefly, as follows:

Eight Preferable to Six

"So far as the character of the torque is concerned, the twin four motor would have the advantage over the six by reason of the more frequent impulses of lesser intensity.

"So far as weight is concerned, a twin four would have some advantage over a six, particularly in the crankcase, the crankshaft and flywheel, as the shorter crankshaft can be made smaller, both because it is shorter and because the light pistons and small impulses do not have the same tendency to twist the shaft.

"So far as smoothness is concerned the eight would be better than the six at moderate speeds because the more even torque would show to advantage at these speeds, and the inherent vibration due to unbalanced inertia forces would not be a factor, but at the higher engine speeds the advantage would switch to the six-cylinder motor, as the unbalanced inertia forces become a very important factor and in spite of the lighter pistons and shorter crankshaft, the vibration would be a great deal more pronounced in the eight than in the six. This is a very undesirable feature, because one of the reasons for using more cylinders is to increase the range of motor ability and at the same time increase its smoothness.

"So far as accessibility is concerned, the twin four is a very great disadvantage when compared with the six, as the 90-degree angle makes it impractical to mount the generator, water pump, starting motor, etc., in the usual place alongside the crankcase and just inside the frame. This makes it necessary to mount this equipment either below the frame or between the cylinder blocks. Any of the equipment mounted below the frame is, of course, exposed to mud and water, and in addition to being inaccessible is very apt to be damaged. The larger part of these units are usually mounted between the cylinder blocks or in what might be called 'valve alley,' with the result that the valves are rendered very inaccessible, and this is not a desirable result, to say the least. The required angle of the cylinders also makes it very difficult to design into the car a proper substantial steering gear and still render assembling practical. In the best workouts that I have seen the assembling and disassembling of the steering gear is a very difficult matter.

Big Inertia Forces in Six

"As further explained above, the only disadvantage of a six-cylinder motor is the fact that in order to get a reasonable size motor the crankshaft must be rather long and the inertia forces are rather large owing to the necessarily large pistons. Since a single six-cylinder motor is in perfect balance, however, there is no reason why we cannot combine with it another six-cylinder motor, V-type, and still have a motor that is in absolute theoretical and practical balance. In designing this twin six motor, however, it is necessary to set the cylinders at an inclined angle of 60 instead of 90 degrees, as there will be six impulses per crankshaft revolution instead of four, and a circle divided into six parts gives 60 degrees. In other words, the impulses follow each other at intervals of 60 degrees, and this, of course, determines the angular position of the cylinders.

"So far as weight is concerned, the twin six motor is just about a stand-off as compared with the twin four, but lighter than the single six. The twin six motor is slightly longer than the twin four, but owing to its smaller bore and stroke and lesser angle it makes up in absence of width for what it exceeds the twin four in length. The weighing up of actual motors proves this to be a fact.

Accessibility of Twelve a Feature

"So far as accessibility is concerned, the twin six motor is far superior to the twin four and just as good as the single six. The 60-degree included angle allows us to build a 424-cubic inch motor 21¼ inches wide over-all, as compared with 28 9/16 inches, as in the case of the twin four. This allows the placing of the generator, water pump, starting motor, etc., in the usual place alongside the crankcase and between it and the frame, without widening the frame over the Packard narrow standard. It also allows the easy assembling and disassembling of a properly designed steering gear. This leaves only the carburetor to be placed between the cylinders, and by placing it well above the motor 'valve alley' is left entirely open and all valves are easily accessible for adjustment.

"The tremendous difference in power output of different motor types at the higher speeds is, of course, partly due to the increased compression, partly to the more effective valve area, but largely, I believe, to the lightness of the reciprocating parts and the consequent tremendous reduction in friction. In this connection it is interesting to note that both the single six and twin six motors have valves whose diameter in the clear equals half the bore, but that with the single six valves lifting ¾ inch and the twin six only 5/16 inch, the effective valve opening is approximately 22 per cent greater in the twin six. This is due to the fact that the piston area decreases as the square of the diameter, while the effective valve opening decreases directly with the diameter."

generator can be rocked closer to or away from the engine to give the required adjustment of the sprocket centers. Two set screws hold the generator in place. The generator runs at twice engine speed.

On the block the six-cylinder motor gives 34.7 horsepower at a speed of 2,200 r. p. m. The most noticeable feature of the power unit is its compactness. The upper half of the crankcase is integral with the cylinders. The lower half, which forms the oil reservoir, is a steel pressing. The cylinder head is detachable.

Internal features offer nothing out of the ordinary for good practice. Valves have nickel-steel heads welded to carbon steel stems. Pistons and rings are standard, and a slight change this year is the substitution of a Burd high-compression ring at the top of each piston for the former eccentric ring. The other two rings for each piston, however, remain of the eccentric type. Four bearings support the camshaft, the drive for which is by helical gearing.

Atwater-Kent distributor ignition is employed, and there is one slight change in connection with it. That is the removal of the spark plugs from over the exhaust valves to over the intakes.

Splash lubrication is used. There are individual splash troughs under the rods and circulation is maintained by a pump, with leads to the main bearings. Cooling is by thermo-syphon system in connection with a cellular-type radiator and belt-driven fan.

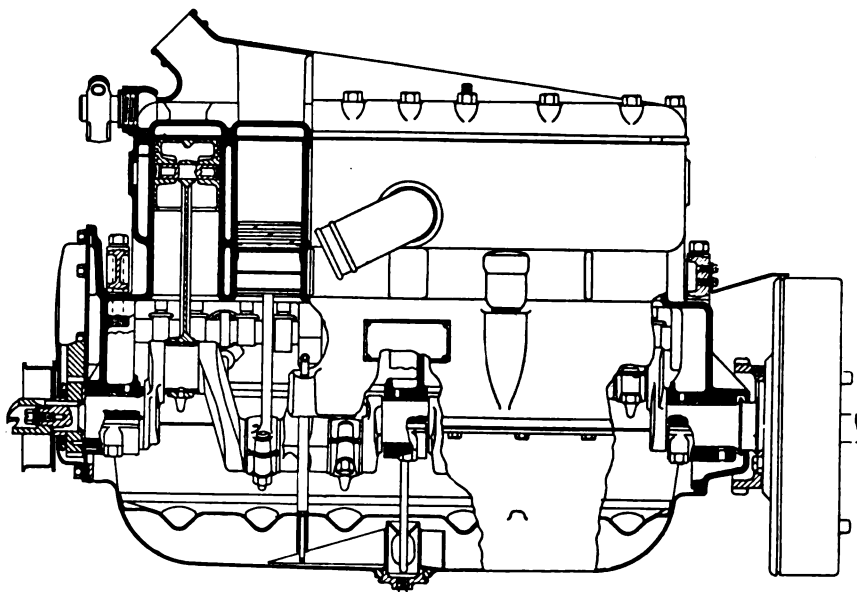
The disk clutch is housed in the fly-wheel. There are two engagement springs, making for uniform action. After passing through a universal the drive shaft enters a torsion tube. This has the usual yoked front end hinging to a substantial frame cross member. At its rear end the tube attaches to the front of the gearbox, and the latter in turn is a unit with the front part of the rear axle housing.

The Saxon company has been very successful with cantilever springs, these being used on both cars. They are constructed of vanadium steel and are mounted outside of the frame rails on riveted brackets. These springs are 2 inches wide, 30 inches long in the rear and 27¾ inches in front on the six.

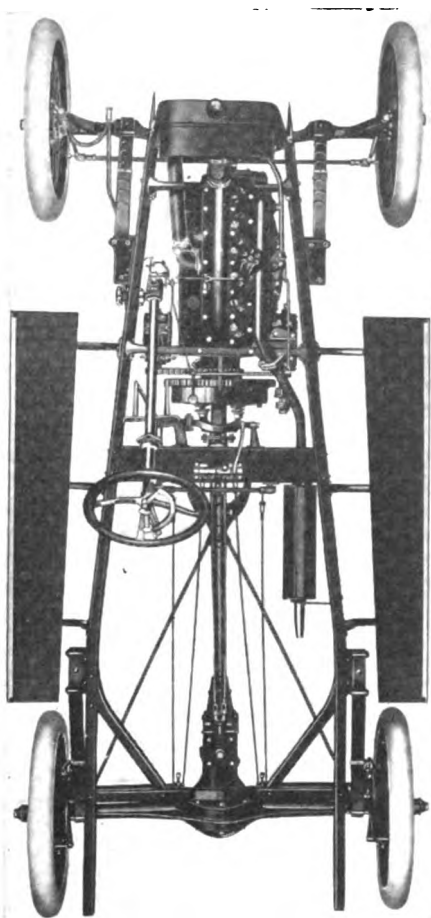
There is the new method of making the cowl gasoline tank. Heretofore a soldered type was used. The new tank is constructed of two pieces of drawn metal welded together.

A point which adds to the external appearance is the replacing of the rubber mat in the front compartment by linoleum, aluminum bound. The running-boards are also dressed up by this use of linoleum.

Flexibility of the Saxon four roadster, ability for negotiating all sorts of going is given by the addition of the inter-



A feature of the motor of the six is its compactness. It is said to develop 34.7 horsepower at 2,200 r. p. m. The cylinder head is detachable



Six chassis, showing tapered frame, rear bracing and cantilever springs

mediate speed in the gearset. The noticeable thing about the new roadster, however, is the change in the front part. The former windshield filler skirt has been done away with. This was a piece of cloth used to bridge the gap between top of cowl and bottom of windshield. The new body cowl is brought up to meet the windshield without break.

Along with this improvement the windshield itself has been enlarged and made ventilating.

Although electric starting and lighting are not standard on this car, the cost of equipping it with a single-unit Detroit Starter Co. system has been reduced from \$70 to \$50 extra. This means that a full electric-equipped vehicle may be had for \$445. However, instead of having only gas headlamps, oil side lamps have been added.

Another refinement is the fitting of adjustable clutch and brake pedals so that a driver of any height may be comfortably accommodated. The brakes also have been improved by making them 2 inches wide instead of 1½ inch. This gives added braking power.

As in the six, the axles are now made by Timken, though of the same design as in the past except that the front wheel spindles are of better steel.

There are no motor changes other than the fitting of a Burd ring at the top of each piston instead of an eccentric ring, as is also done in the six. Though smaller, the motor is much the same in general design as the six. A special Mayer carburetor is used, the supply tank being in the cowl. Similar to the six, the engine is oiled by splash, with a pump supplying the troughs and the main bearings.

Following the popular trend, the Saxon company has added detachable tops to its line. These are intended for fitting to either the four-cylinder roadster or the six-cylinder touring car. They virtually enclose the car against any kind of weather and a good scheme of attachment by bolts and catches is employed. The front fits the side supports of the windshield snugly. For the touring car this top costs \$150 extra when bought with the car and for the roadster the price is \$60 additional.

Two Eights in 1916 Jackson Line

Larger Model Is \$1,685 and the Smaller, \$1,195—Line Also Includes New Light Four Listing at \$985

SPECIFICATIONS OF THE THREE JACKSON MODELS

Price—Touring	\$1,685	\$1,195	\$985
Color	Dark blue	Dark green	Maroon
Make of motor	Northway	Northway	Northway
Number of cylinders	Eight	Eight	Four
Shape	L-head	L-head	L-head
How cast	4 block	4 block	Block
Bore	3½	2¾	3½
Stroke	4½	4¾	5
S. A. E. rating	39.2	26.4	19.6
Starting-lighting	Autolite	Autolite	Autolite
Clutch	Cone	Cone	Con-
Gearset	3-speed	3-speed	3-speed
Wheelbase	124	112	112
Tires	34 x 4½	32 x 4	32 x 4
Wheels	Wood	Wood	Wood
Type rear axle	Floating	Floating	Floating

THE Jackson Automobile Co., Jackson, Mich., has an ambitious program for the coming year and is the first manufacturer to announce two eights of different capacities. Both will have Northway motors; the larger will use the engine which was introduced last winter and the smaller a new motor modeled upon the same general design. In addition there will be a light four with a high-speed type of engine, and it is expected that this will be a very popular car.

The light four is a Northway motor, like the eights, having 192 cubic inches and being 3½ x 5. Being carefully balanced, its ability for high-speed running can be made use of freely. It is the idea of the Jackson company that there will be a large demand for a thoroughly good and well finished four-cylinder car despite the low prices of some sixes and eights, so it is making an excellent job of the four, which is listed at \$985.

The smaller of the eights is 2¾ x 4¾, or 246.7 cubic inches, and the larger 3½ x 4½, with 346.3 cubic inches. The prices are \$1,195 for the smaller and \$1,685 for the larger car.

Only the large eight has a seven-passenger capacity, the other two having five-passenger touring bodies. A feature common to all three cars is a high finish for the bodies and the use of leather upholstery. Also the Jackson company has broken away from the conventional black paint work; the four is finished in a rich maroon tint, the small eight in dark green with natural wood wheels, and the large eight in dark blue.

On all Jackson chassis both front and rear springs are full-elliptic. In using springs of this kind the main difficulty is to devise a sufficiently strong attachment to the frame, as stresses that are normally taken at two points

are attached in the same manner except on the large eight, which has a swivel attachment.

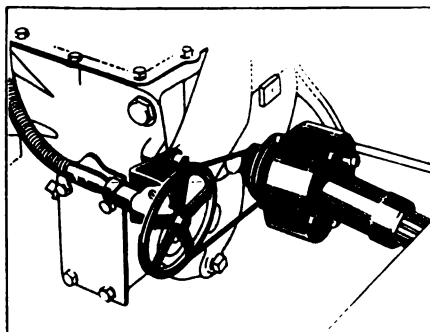
The largest car has both torque and radius rods, so as to relieve the springs of all stresses save those imposed by the load, but the two smaller chassis have only torque stays, driving effort passing through the springs. This gives a very easy and elastic drive, the flexibility of the spring acting as a cushion.

Not long ago the Jackson company was using a single universal with the propeller shaft enclosed on some of the models, but this design has now been abandoned in favor of the open-type shaft with a universal at each end. The rear axles are all floating, and the gear ratios on high are 4.4 to 1 on the four and little eight, and 4.25 to 1 for the large eight. Telescopic motion of the drive shaft is cared for by mounting the front universal upon a large splined shaft end which eliminates a universal combining sliding with the other motion. This makes for easy enclosure and better lubrication of the joints.

On all models the distributor of the two-unit Autolite system is combined with the generator. The starting motor is carried low on the crankcase side, and the generator is between the cylinders on the eights, being mounted in the usual place on the four. Fuel is supplied by a Stewart vacuum feed from the rear round tank.

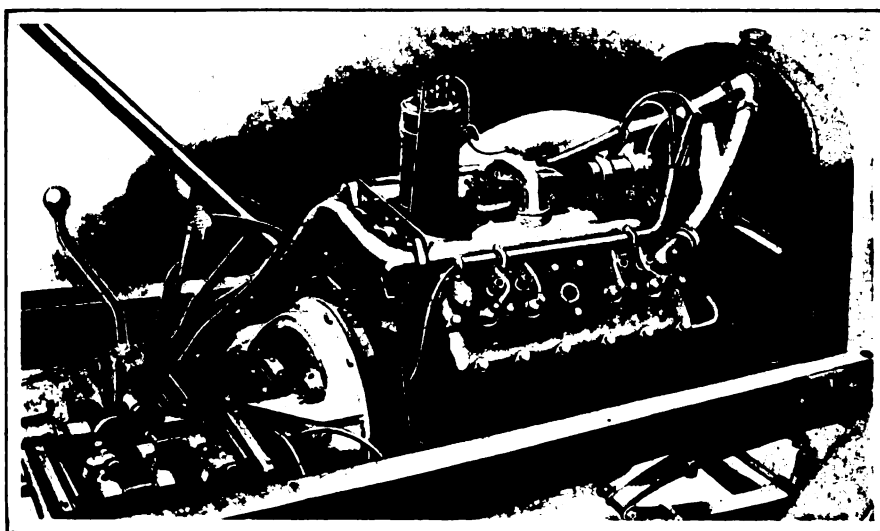
Each power plant includes a cone clutch with external springs and both the eights are of the same sort of design, having the crankcase divided vertically and the cylinder blocks cast integral with half the case. The large motor is practically unchanged since the Northway company first introduced it early in the present year, and the small one is different only in that it has a two-bearing crankshaft instead of the three-bearing used for the larger engine.

Both have pressure lubrication and a



The Jackson speedometer drive is taken from the propeller shaft where it is fully protected

are concentrated at one only. In the photograph showing the engine of the larger eight the method of attaching the front springs is made clear, the frame being pierced with holes for the spring clips which are thus gripped to the lower flange of the side rail. At the rear end of the frame the other springs



The eight-cylinder motor has detachable cylinder heads and forms a unit with the clutch and gearset. The Vacuum feed fuel tank is mounted atop the cylinder blocks

single camshaft with sixteen cams. The same style of forked connecting rod is used for both motors, this having proved satisfactory in the large number of Northway eights put out during the last six months.

The cylinder heads are detachable, which makes a light task of cleaning out carbon. The spark plugs are located centrally.

The Jackson company makes a feature of its wide steering lock, which makes the car convenient to handle in cities or in rough country. To enable the fullest value of this to be obtained the wheelbases have been kept fairly short, that of the four and small eight being 112 and that of the large eight 124. Tires are 32 x 4 all around on the smaller cars and 34 x 4½ on the large eight.

Heavy Sales Reported

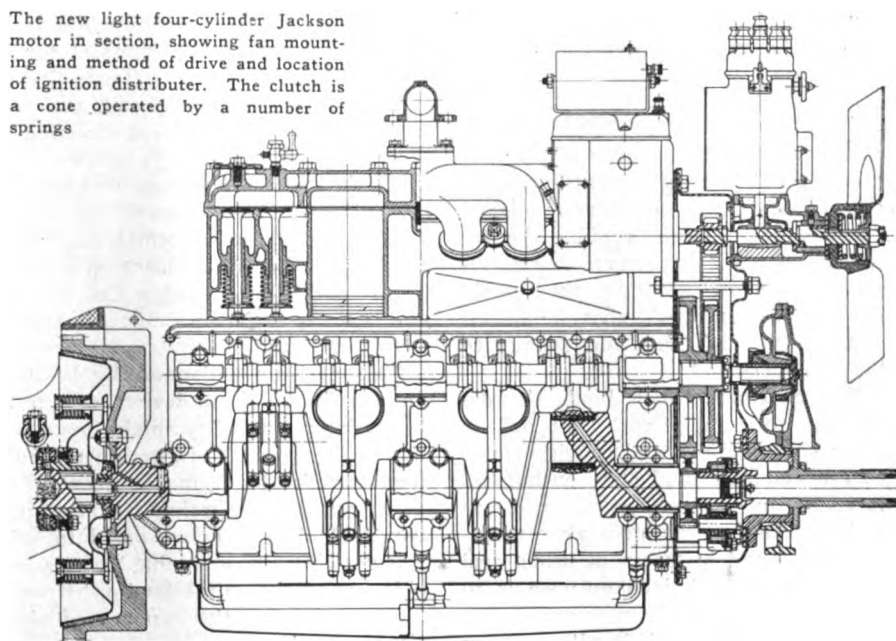
BAY CITY, MICH., September 18—During the past season business in this part of the state has been very good. There is not a dealer who did not sell more cars than in 1914. Sales thus far of 1916 models indicate that the season 1916 promises to be another record breaker.

The Central Auto Co. handles the Oakland in Bay county and the Chevrolet in Bay, Arenac and Iosco counties. Sales of both models of these cars are 50 per cent ahead of the same period last season after the new models were announced. Alterations to the quarters were recently made to provide more room.

Paige and Saxon cars are handled by the Paige Sales Co., which will occupy new quarters at 202 Sixth street. Sales during 1915 were at least 50 per cent ahead of the previous season and for 1916 contracts call for 150 to 250 more cars than last year, it is claimed.

The Hubbell Auto Sales Co. handles

The new light four-cylinder Jackson motor in section, showing fan mounting and method of drive and location of ignition distributor. The clutch is a cone operated by a number of springs



The model 34 Jackson, one of the eights, has modern boat-like lines and a well-smoothed exterior; the wheelbase is 112 inches

the Ford in Bay, Saginaw and Gladwin counties. During the fiscal year 1915 the company sold 550 Fords and for 1916 has contracted for 1,050 cars. The city trade is said to be especially good this year.

R. C. King, who was formerly with the Mohr Hardware & Furniture Co.,

is now a member of the Stahl-King Auto Sales Co., which handles the Hollier. While this car was introduced here only recently quite a few have been sold thus far.

BETTER METHODS POSSIBLE AT SYRACUSE STATE FAIR

(Continued from page 8)

cey, district representative of the Buick Motor Co., seems to have summed the matter up correctly when he states that the kind of persons who visit the tent shows are not the kind that buy cars. The persons who really are interested and want to buy, he says, prefer exhibits staged in a building where the cars are much more attractively displayed and where it is possible to give the prospect real attention and to keep the cars clean. "Unless cars are kept clean," he said, "the space is wasted." F. J. McFerren, of the Overland-Syracuse Co., whose exhibit was housed across the aisle in the same building, concurred in these views.

The Buick and Overland exhibits were the only ones with a real roof over them, these exhibits being in the Manufacturers' and Liberal Arts Building. Space cost 10 cents a square foot as against 1 cent where tents were used, but from all accounts it was worth the difference.

The following dealers exhibited:

Reo Sales Co., Reo; Palmer-Moore Co., Palmer-Moore trucks; Brockway Motor Truck Co., Brockway trucks; Sanford Motor Truck Co., Sanford trucks; Erie Trailer Mfg. Co., Erie trailer; Bartlett & Smith Motor Co., Studebaker; H. A. Gardiner, used cars; Stowell Motor Car Co., Packard, Hudson, Dodge; Chalmers-Syracuse Co., Chalmers; Overland-Syracuse Co., Overland; Buick Syracuse-Sales Co., Buick.

King Adds Four-Story Building

DETROIT, September 18—A four-story plant at 1045 East Jefferson avenue has been acquired by the King Motor Car Co., which will give about 70,000 square feet of additional floor space.

Dealer's Legal Status

Landlord Must Defray Expense of Making "Important and Permanent" Changes in a Building Despite Lease—
Windows Encroached on Sidewalk

By George F. Kaiser

LAST WINTER, when certain drastic regulations were promulgated by the New York State Fire Marshal, considerable apprehension was felt by dealers that they would be called upon to alter the garage buildings used by them to conform to the new regulations. The measure is dead, of course, but it brings up an interesting question.

There was considerable doubt at that time as to whether the landlord or the tenant would have to bear the expense of altering a building when a lease contained the provision that the tenant should "comply at its own expense with all orders, notices, regulations or requirements of any municipal, state, or other authority or department, and should keep the premises and every portion thereof, inside and outside, in good order, condition and repair."

The New York Court of Appeals has lately handed down a decision in a case where the facts were quite similar to the facts in the ordinary garageman's case. It held that a clause of this kind did not cover an important and permanent structural change in the building, but that the expense of such alterations would have to be borne by the landlord.

Windows Encroached on Sidewalk

As there is always a possibility that new regulations or ordinances may be put into effect, the facts in this case are well worth recording.

In 1901 an agreement was drawn up under which it was provided that a building, suitable for use as a department store, was to be erected, for which plans should be submitted to the prospective tenant. During the following year a building was erected in accordance with the plans, and occupied by the tenant.

In the building plans provision had been made to have the show windows on the ground floor of the building encroach upon the sidewalk from 1 to 12 inches and when the building was built the windows were so installed, as it had long been common practice for the authorities in the City of New York to allow projections of parts of buildings upon the street.

In 1912 the Board of Estimate and Apportionment directed that the windows be removed because they were encroach-

ments in accordance with a resolution by which it repealed and revoked all permits which had allowed any encroachments on that street.

The windows accordingly were removed and the question of who was to pay for the alterations was brought before the court. The court of appeals, in deciding that the landlord would have to pay the expense of the alterations, said:

The Court's Decision

When these parties agreed that the defendants would comply with "all orders, notices, regulations or requirements" of the municipal authorities, etc., it was still a part of the administrative policy of the city to sanction and even to license show windows and other building projections that were encroachments on the streets, and this policy remained unchanged for eight years thereafter. It is not to be assumed, therefore that the comprehensive phrases of the lease, all of which were quite germane and appropriate to existing conditions, were intended to apply to future events not then in contemplation. The lease bears evidence on its face of having been carefully drawn by skilled counsel, but it contains no intrinsic indications that it was intended to cover radical changes in the building laws of the future.

Common Form Used

Had it been the purpose of the parties to guard against the extraordinary contingency that some later municipal administration might require the removal of such structural encroachments as show windows, they could easily have expressed that important consideration in terms too definite to be misunderstood.

The covenant which binds the defendant to comply with "all orders, notices, regulations and requirements" of the municipal and state authorities is broad and inclusive, it is true, but it is in the general form almost universally found in leases of urban real estate, and its obvious purpose is to relieve the owner from burdens that would naturally and legally fall on

him unless, in accordance with common usage, the tenant is specially charged therewith.

The matter in dispute is not of that character. Here the tenant is sought to be charged with the expense of making an important and permanent structural change in the building occupied by him. This burden is one that usually falls upon the owner, and if it is to be shifted to the tenant the warrant for the change should be discoverable in the lease.

We can find in the lease no indication that this was the intention of the parties, and there are in it some suggestions that tend to negative the plaintiff's assertions in this behalf. In that portion of the lease which specifies that the defendant is to pay all taxes, water rents and assessments of all kinds, it is expressly provided that he shall pay such charges "whether ordinary or extraordinary," and "not only those commonly imposed."

Under the rule of *ejusdem generis* this reference to "extraordinary" expenditures must be limited to the class in which they are mentioned. Taxes and assessments are not in the same category with the cost of making substantial changes in a commercial building.

Tenant's Burden Limited

It is impossible, of course, to lay down a general rule that will precisely fit all cases. The language of this lease, construed in the light of contemporaneous regulations, usages and customs, seems to require the conclusion that it was not the purpose of the parties to subject the tenant to an expense caused wholly by extraordinary and unforeseen building alterations made necessary by a subsequent and radical change in the policy of the municipal government, and we are brought to this conclusion despite the forceful argument of counsel for the plaintiff in which he contends that the expense of complying with the order of the borough president directing the removal of the show windows comes within the very letter of the lease. We think that this extraordinary expense was not in the contemplation of the parties when this lease was made. (*Herald Square Realty Co. vs. Saks & Co.*, New York Court of Appeals, July 13, 1915.)

This decision will naturally be pleasant reading to those dealers who feared last winter that they might have been put to the expense of altering the buildings occupied by them. In event of any more rules necessitating the altering of garage buildings being put into effect this decision will undoubtedly be a valuable one to cite to the landlord if he objects to bearing the expense of alterations himself.

"Darn It! Reilly, We Won't Let Them Be Dissatisfied"

Burt, Businessman-Garageman, Outlines a Telephone Scheme for Following Repair Work

By Ray W. Sherman

IF AN Italian funeral hadn't gone down Linden avenue just as Reilly was in the middle of his sales story to Mr. and Mrs. August Murray he probably would have sold a car. As it was they said they would call again, and all the wiles of salesmanship couldn't get them back to the point they were at when the funeral appeared.

At the head of the procession was a band, whose members could have qualified in any slow race that ever was run and whose instruments bleated and growled painfully. If Tony Capucci's residence in the after-world is as low down as the notes of the band he very much regrets by this time that he ever got into that cemetery parade.

The Hearse Boiled Over

When the band first busted out, about three blocks down the street, Mr. Murray pricked up his ears. So did Reilly. Mrs. Murray tried to keep on being interested, but when the roaring, moaning aggregation of brass arrived opposite the salesroom and her husband said: "Come on, Jane, let's give it a look," she gave up and looked.

It was a fine funeral. The only mishap was that Maloney's automobile hearse had to run so slow it boiled over six blocks from the cemetery and Capucci rode to glory in a cloud of steam, and the things the hearse driver said about Italian funerals was rivaled only by what Reilly thought about them but didn't say.

It was by now 11 o'clock, and inasmuch as Reilly had to see Harvey Burt, the garageman, some time today and the afternoon was pretty well filled up he jumped on a street car at the next corner and skipped down to Burt's. He arrived just as Harvey was in the midst of a session with the repair foreman.

Burt Uses Language

"Come in, Reilly!" invited Burt, when Reilly hesitated on the threshold, for it seemed as if a conference were on. The foreman soon departed for the back of the building.

"Darned idiots!" ejaculated Burt, after the door had closed and the repairman was out of hearing.

"What now? What now?"

"These repairmen!" replied Harvey. "This foreman of mine simply won't do things right without being watched. He

gets pretty good money, too, and I'd give him more if he would only brace up a bit and pay more attention to things. If he says a thing is right you never can be sure it's right. And I can't inspect all the jobs that go out of the shop. I haven't time. I have other things to do.

Makes 'Em Feel Good

"Getting some complaints?" asked Reilly.

"Oh, not very many, but we have one now and then. I just called up Cusack, one of our customers, to see if the job we sent him was all right and he informed me that it apparently was not. That's what I was talking to the repair foreman about when you came in."

"Do you have to follow up all your jobs like that in order to keep the shop running right? I should think it would be better for you to take the time to inspect them all before they leave the shop and be sure the job is right."

"That's not the point," replied Harvey. "If I were sure every job was in tip-top A1 condition we would follow them up just the same. I don't do this as a check on the repair foreman; I do it as a business booster and a good-will getter."

"Oh," said Reilly.

"That makes every job satisfactory," continued the garageman. "It doesn't cost me anything and it does help keep my customers lined up on the right side of the fence."

"How's the Car Running?"

"How long have you been doing that sort of thing?"

"Oh, quite a while. A year and a half; maybe two years. It's just another one of the ideas I swiped from that cigar man across the street."

"Still stealing ideas from that fellow?" laughed Reilly.

"Yes, as an idea mine he never seems to run out. I guess he never will. He employed this little method on some of his customers, and I stole the method and use it on nearly all my repair customers. You know how it is, Reilly: if you do some repair work for a man and he takes the car out he may be satisfied and he may not be satisfied. If he is satisfied he probably keeps coming to you for his work until some day he is dissatisfied; then he is likely to

quit you and you may never know why he doesn't come to you any more.

"I have had experiences like that and I hope never to have any more. Now when a job goes out I wait about twenty-four hours, or until I think the owner has run the car a little, and then I call him up and ask him how the car is running. I ask him if everything is satisfactory and if we, for instance, fixed the clutch, which may have been stiff, I ask him how the clutch is working now.

Squelch Dissatisfaction!

"I make it a point to have quite a little conversation with him and make sure he means it when he says the car is all right. But if he should say the car is not all right I tell him to let us have it back again. I will even send one of our men out after it and get it in here as quickly as possible. This way it is practically impossible for a customer to be dissatisfied. If he is satisfied he tells us so and our having called him up makes a good impression on him and helps put him in the booster class. And if he isn't satisfied we don't give his grouch a chance to grow. We yank that car back and make the job right. Then he is more satisfied than he would have been had the car been O. K. the first time. Darn it, Reilly, we won't let them be dissatisfied!" And with this Harvey banged the desk with his fist and leaned back in his chair triumphant.

"Great little scheme!" replied the car dealer.

"I think so! I think so!" asserted the garageman. "It works out well! Wonderfully well!"

"Do you know, Harvey you are no more the same garageman you were three years ago than a kitten is a Bengal tiger?" Reilly said this slowly and with conviction. He was very earnest.

"Thank you for the compliment—if it is a compliment," answered Harvey with a laugh.

"It is a compliment—and you have earned it," added the dealer. "Three years ago you were a mechanic-garageman. Today you are a businessman-garageman. And I guess your bank roll is the indicator of what it means to you, isn't it?"

Recognizes Good Ideas

"Yes, it is different from what it used to be," admitted Burt. "In fact, it didn't 'use to be' at all. It just plain wasn't."

"Whether Joe Keye, the cigar man, started you into action or whether you merely started in some unexplained way makes no difference. The difference, however, is very apparent. Today if you see a good idea you use it. You seem to recognize one, too, when you come in contact with it. Today you are doing a lot of little things to boost your business, such as following up these repair jobs and keeping the cobwebs out of the

front windows. You have reformed in a way that is wonderful to me—and so long as you keep on progressing you will have but one competitor in this town. And he——”

“——is Arnold Sherry.”

“Arnold Sherry is right. He is the

only other wide-awake garageman in this town. But a little competition is good for both of you. He knows a good idea too——”

“Yes,” smiled Burt. “Arnold Sherry’s on the job. He’s swiped this idea of mine already.”

Twelve Principles of the Successful Dealer

Dirt Is a Natural Enemy of Progress, Says Harry W. Ford—Success Hinges on Making Right Decisions

Harry W. Ford, who has been eminently successful as president of the Saxon Motor Co., gives the following twelve requisites of the successful automobile dealer. These qualifications together with the comments upon them are of vital interest to the motor car selling field and are especially valuable when coming from one so well qualified to speak on the merchandising subject.

1—SUFFICIENT CAPITAL

The amount of capital needed varies with the size of the territory and the line to be handled. Each dealer must figure out his own capital requirements. But it may be accepted as a principle that any business lacking sufficient capital will either fail or have only a small success. Expansion depends upon capital in every line of business. A dealer should have enough capital to provide adequate facilities in all departments of his business—to do advertising and other sales promotion work—and to carry a satisfactory stock of cars at all seasons of the year.

2—GOOD LOCATION AND SHOW-ROOM

Have a store where lots of people will naturally pass it and see it. Don’t hide away on some back street, far from the natural avenues of automobile trade. You don’t need a fancy showroom, but you do need a good, neat, clean, well-kept showroom. Dirt is a natural enemy of sales, of progress, and success. Don’t show new cars in a garage or machine shop. Would you like it if your tailor showed his goods in his work shop—or if your jeweler took you into a basement to show you a fine watch?

3—ADEQUATE SERVICE FACILITIES

By this we mean room enough, equipment enough, help enough and superintendence enough to insure that all your customers may have prompt service, right service and economical service.

4—GIVE GOOD SERVICE

Mechanical equipment and good mechanics are not enough. A dealer must

really believe with all his heart that good service is a foundation stone of business success. He must fully realize that the Good Will of customers is the greatest asset any business house can have.

5—ADEQUATE ORGANIZATION

By this we mean the right people in the right jobs. Round pegs in round holes—and as many pegs as holes. Not too many people—but enough, so that all work may be accomplished promptly and efficiently.

6—BELIEF IN ADVERTISING

It takes more than advertising to make a dealer successful; but few dealers, if any, will ultimately be successful without strong, consistent advertising. Advertising should be as much a part of a dealer’s business as bookkeeping or a service department. Advertise steadily, not spasmodically. Persistency wins profits in the end. Use honest, straightforward statements and put most of your money into the best newspapers. There was a merchant once who didn’t believe in advertising, but the sheriff got him. Can you think of any big automobile success that has been built up and maintained without advertising? And you will notice that the biggest successes are doing the best advertising, as a rule.

7—GRASP OF MERCHANDISING PROBLEMS

By this we mean ability to be a merchant; that is to say, a salesman on a big scale. After all, an automobile dealer is a merchant, not a repairman, not the superintendent of a garage or machine shop. It is only by paying most attention to the big merchandising problems that a big volume of profitable business can be developed.

8—BELIEF IN MAINTAINING PRICES

The one-price idea is the greatest idea that ever came into American merchandising. The one-price principle of doing business has come to be a law. And he who goes contrary to that law will

surely pass through deep troubles sooner or later.

9—EXECUTIVE ABILITY

An executive is one who knows the difference between important things and those which are unimportant—and knows how to get them all done, big and little. But most of all, he knows how to delegate work to others and how to concentrate his own time on the things which are really big—the things which differentiate between profit and loss.

10—GOOD ACCOUNTING SYSTEM

A dealer should know just where he stands at all times. He should know where the profits are—where the losses are—just exactly what everything costs.

11—GOOD BUSINESS JUDGMENT

Success hinges on decisions. Right decisions result from sound judgment. Weigh things carefully. Don’t make important decisions until you have all the facts. Don’t trust too much in hunches. Don’t let prejudice or personal likes and dislikes affect your business decisions. Don’t decide any important matter when you are angry or worried or suffering from indigestion. Ask your banker’s opinion once in a while. Also ask your wife’s opinion sometimes. Be sure to think first and then decide—don’t decide first and think afterwards.

12—CHARACTER

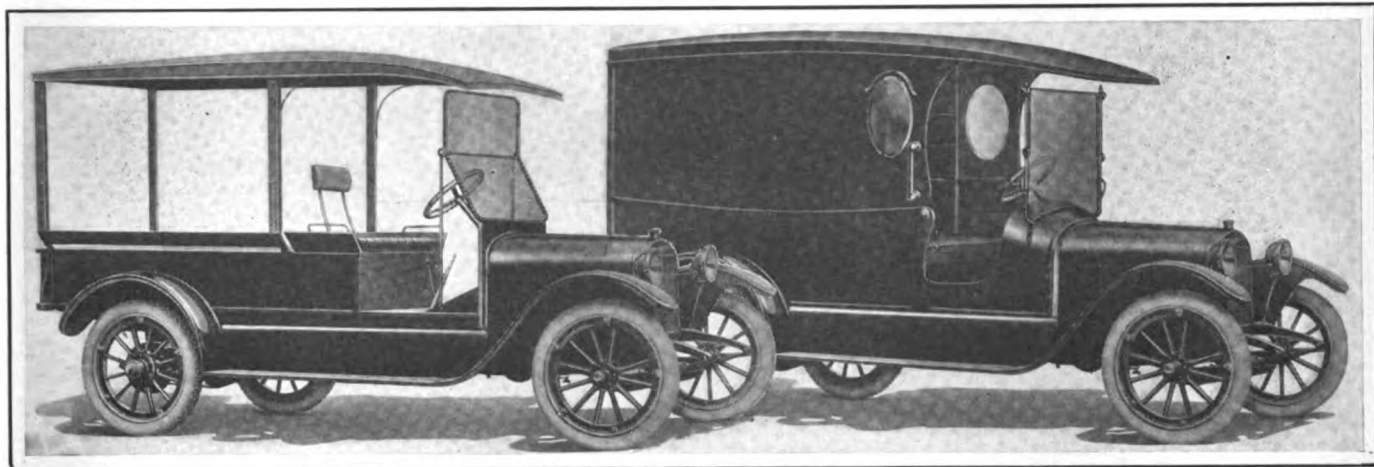
Right character gives to a man and business institution the right standing in the community. A man’s character is the sum total of all that he is. The great honor of being known as a strong character comes from straightforward dealing, from a reputation for energy, industry, loyalty, enthusiasm, good sense, and decent living.

Gas Goes Down in the West

TACOMA, September 15—While the price of gasoline is inclined to soar in the eastern states, it has been gradually lowered in the Pacific Northwest. Figures obtained from the Standard Oil Co., Tacoma, give a record of wholesale price on gasoline for the past year. They follow:

September 1, 1914, 12½ cents; September 7, 12 cents. Held at 12 cents until October 22. October 22 reduced to 11 cents. Held at 11 cents until February 2. February 2 reduced to 12 cents. Held at 10 cents until July 7. July 7 reduced to 9½ cents. Price of 9½ cents wholesale still in effect September 8.

Texas and Gulf gasoline are not sold in the Northwest, but instead, Shell and Union gasoline are used in this field. These companies maintain the same prices as those put into effect by Standard, retailers making price from 1 cent to 1½ cent above wholesale price to customers.



With an open express body the Detroit package wagon lists at \$690

There is a panel body at \$690, though this de luxe model lists at \$745

Detroit 750-pound Package Wagon at \$690

Three Types of Bodies on One Electrically Equipped Chassis

THE Detroit Commercial Car Co., Detroit, has been formed, with W. D. Paine, formerly a zone supervisor of the Maxwell Motor Co., as its president and general manager. The personnel of the company other than Mr. Paine has not been made public, but it is understood that sufficient capital is available for extensive manufacturing operations. Headquarters are being established at 1225 Woodward avenue.

The product is to be a light delivery vehicle, known as the Detroit Package Wagon, and having a rated capacity of 750 pounds. Three types of bodies are listed, one a standard panel, selling at \$690, an open express body also at \$690, and a full panel type of more elaborate body construction at \$745.

The chassis is practically the same as that used by a passenger car of similar size and has a wheelbase of 106 inches

and is powered with a four-cylinder block motor, $3\frac{1}{4} \times 4$. The rear suspension is by full cantilever springs. Tires are $30 \times 3\frac{1}{2}$, pneumatic. Also suggestive of the passenger type of vehicle is the floating rear axle, which incorporates spiral-bevel gearing. Gearset and clutch, both in unit with the engine, are compactly designed. The clutch is a multiple disk type and the gearset gives the conventional three speeds. The equipment includes a single-unit electric cranking and lighting system.

The engine offers nothing out of the beaten path, being a compact unit. The L-head cylinders have cover plates enclosing the valve mechanism. The barrel crankcase is aluminum, being in unit with the housing of the flywheel. The cylinder block bolts to the case and a bottom portion serves as the oil reservoir and cover for the bottom of the power plant as well. Its removal exposes all of the main bearings.

Chrome-nickel steel is used for the camshaft and crankshaft alike, and both

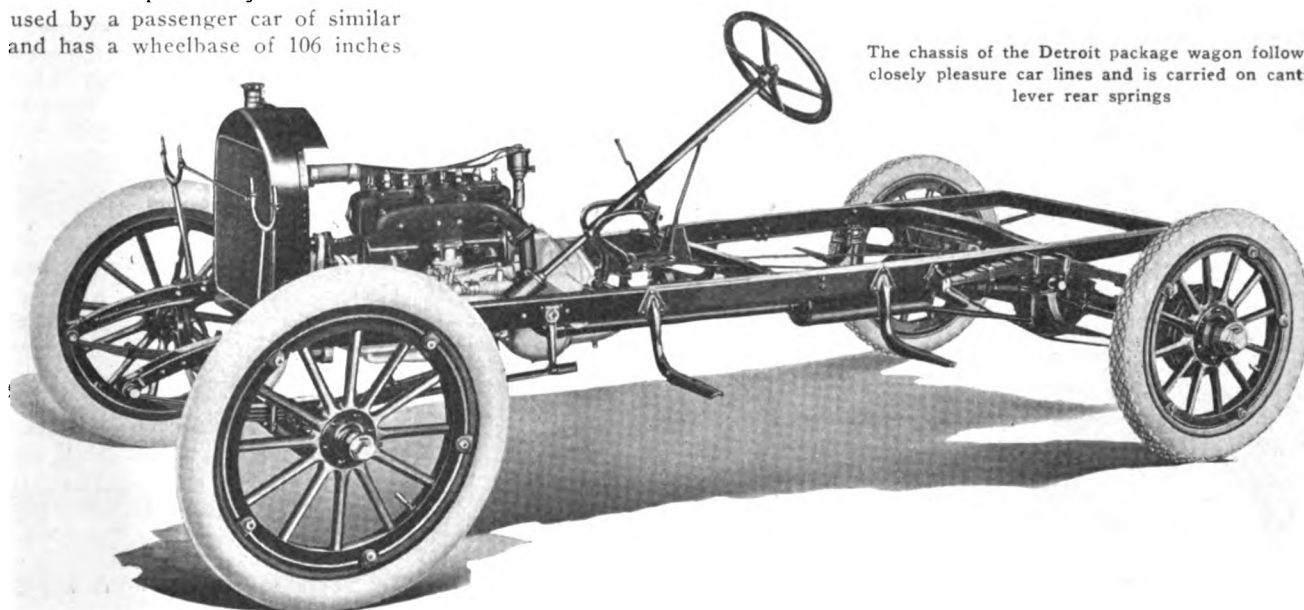
are on two bearings of good size. The aim has been to attain speeds which would put the engine in the so-called high-speed class.

Energy for ignition comes from the storage battery, its distribution being taken care of by a Connecticut coil and distributor mounted in a vertical position at the rear of the cylinder block and driven from the rear end of the camshaft by spiral gear connection.

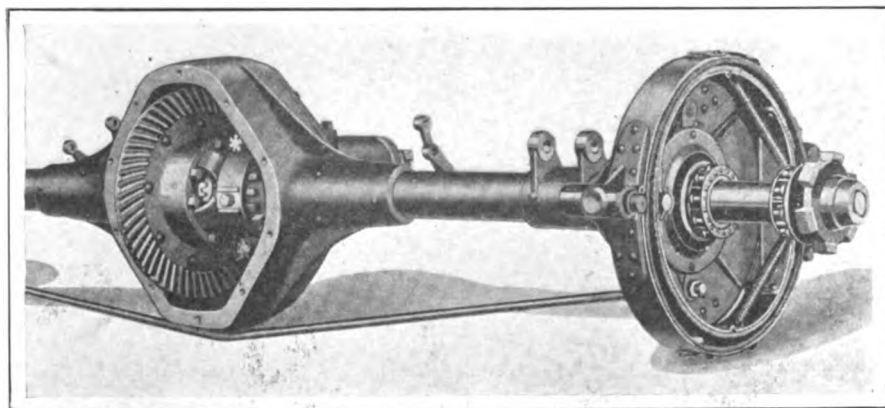
Thermo-syphon cooling in conjunction with a honeycomb type radiator and splash lubrication are used. The clutch runs in oil, with the plates held in engagement by one large main spring operating on four levers, the construction permitting the use of a comparatively light spring, and at the same time, owing to the large leverage obtained, providing a heavy gripping power.

Drive is transmitted by a chrome-nickel steel shaft and two universals. The drive is taken on the Hotchkiss principle through the springs.

Both differential and driving gears are of chrome-nickel steel, and the mechanism of the rear axle is all mounted on ball and roller bearings. Each side of



The chassis of the Detroit package wagon follows closely pleasure car lines and is carried on cantilever rear springs



The axle of the Detroit package wagon is substantial and thoroughly accessible; spiral bevel gears are used

the spiral bevel gearing there are both ball and roller bearings, the latter taking the thrust. At the wheel ends of

the axle shafts there are two roller bearings. The brake drums are 2 inches wide and 12 inches diameter.

MADISON SPECIFICATIONS

Price—

Five-passenger	\$985
Roadster	985
Seven-passenger	1,085
Make of motor	Rutenber
Number of cylinders	Six
Shape	L-head
How cast	Block
Bore	3
Stroke	5
S. A. E. rating	21.6
Ignition	Remy
Starting-lighting	Remy
Clutch	Disk
Gearset	3-speed
Wheelbase	120
Tires	34 x 4
Type rear axle	Floating

Two Madison Sixes at \$985; One at \$1085

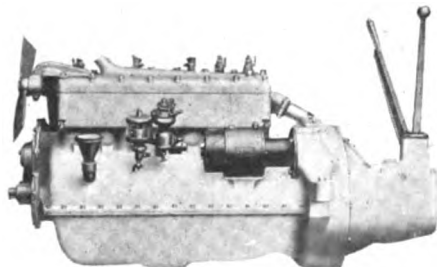
All Three Fitted to Single Chassis—Construction Is Standard

NEW MODELS of the Madison Motors Co., Anderson, Ind., car, described briefly in Motor World September 8, include a roadster and a five-passenger touring car at \$985 and a seven-passenger touring car at \$1,085. These three bodies are fitted to a single chassis with a wheelbase of 120 inches.

Among the features of the motor are a detachable head and nickel steel valves. These have a diameter of $1 \frac{5}{16}$ inch and a lift of $\frac{5}{16}$ inch. The crankshaft is carried on three bearings.

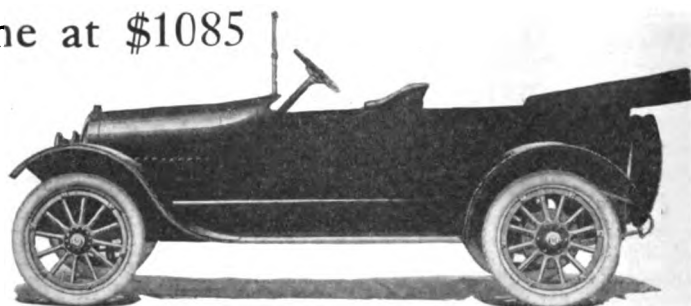
Timing gears have helical teeth and the valve lifters are of the mushroom type, both of which features tend to quiet the valve operation. Lubrication is provided by a constant splash and a vane pump feed direct to the bearings. Cooling is taken care of by a centrifugal pump and full cellular radiator of the modified V shape with a German silver crown.

Remy equipment constitutes the electric plant of the car, ignition and lamps being taken care of by a generator with



Compactness and simplicity are features of the Madison motor

Thoroughly modern lines characterize the Madison five-passenger which sells for \$985



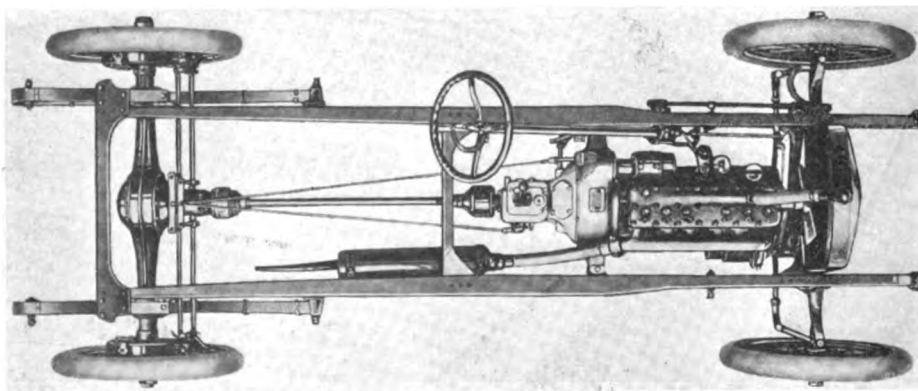
which is combined a magneto type distributor. The other portion of the two unit system, the starter, drives through the flywheel by means of gearing enclosed in the flywheel housing.

From the engine power is transmitted through a dry-plate clutch of the Detroit Gear & Mfg. Co. make. This design uses thirteen disks, alternating asbestos faced and steel. The gearset is made by the same concern. New Departure bearings are used throughout the gearset. The drive is taken through an open propeller shaft with universal at either end on the Hotchkiss system, the driving effort being carried through the three-quarter elliptic springs. A specially heavy forward attachment is provided

for the lower half of the springs to take this extra effort. The rear axle is an American Gear & Mfg. Co. product and is of the floating type with large Gurney annular bearings and Brown-Lipe nickel steel spiral gears in the final drive. The steering gear is a Warner.

The braking system consists of internal and external brakes operated on $1\frac{3}{4}$ x 14-inch drums. Tires are 34 x 4, with Stanweld demountable rims.

Equipment includes a ventilating rain vision windshield, five bow one-man top, aluminum covered runningboards, double bulb headlights, Stewart-Warner speedometer, electric horn, double tire carriers with one spare rim, and a Stewart vacuum gravity fuel feed.



The Madison chassis follows standard lines; the car is driven through the three-quarter elliptic rear springs on the Hotchkiss principle

Facts About Cars

THERMO-SYPHON AND PUMP COOLING COMPARED

The advantage of thermo-syphon cooling is that there is no pump, which means that a part is eliminated, a drive shaft is dispensed with and that the water connections are simplified.

The advantage of pump circulation is that more cooling is obtainable with less water and that smaller passages and pipes therefore suffice.

The main drawback to thermo-syphon circulation is that the water level in the radiator must be maintained at a height which completely covers the outlet from the cylinder head at the point where it enters the radiator; or otherwise circulation ceases. A lesser drawback is that a larger radiator and a greater weight of water are necessary for a given size of motor.

The main drawback to the pump is the gland which makes a water-tight packing joint around the drive shaft, and has to be adjusted now and then, also it is often less easy completely to drain a pump system of water than to do likewise with a thermo-syphon system, owing to the greater intricacy of the passages in a pump, but this is a very minor objection.

Another disadvantage of syphon cooling is that it is difficult to direct a strong flow of water around the valve pockets, where it is needed most, while a pump simplifies this task considerably. In a good many syphon cooled motors water actually boils into steam at the hottest parts of the cylinder and the bubbles condense again as they rise into the header. This has been proved by fitting glass headers and piping to experimental motors.

In a very broad way the simplicity of thermo-syphon may best be taken advantage of in vehicles like trucks, which normally run on well defined routes where replenishment water is easily obtainable, and cars which go all over the world, to the tropic regions of Southern America and to the snows of the North are better cared for by a pump.

There is a half-way house between these two systems that deserves much more attention than it has so far received, and this is the "propeller" pump. Originally a British idea, it was exhibited at the 1913 London automobile show. The layout was designed primarily for thermo-syphon, but the intake pipe from the bottom of the radiator to the cylinders had a bend in it and a little screw propeller was located inside the bend with its spindle projecting forward

through a little lug cast on the corner of the bend in the pipe. The screw was not large enough to choke the pipe, so it did not affect the efficiency of the water system as a syphon system.

On this car the fan was driven by belt in the usual way, and the belt was arranged so that it could also be led around a pulley on the little propeller spindle; thus the water circulation could be accelerated by simply slipping the belt over another pulley. For hot weather or for mountain climbing it was intended that the propeller should be in use, but for normal running it would be idle. As the cost of the installation is small and the efficiency of the screw propeller quite surprisingly high, it seems that the idea is worthy of attention. It is the sort of thing which could be fitted to an old car by any clever repairman.

HOW TO CARE FOR THE AUTOMOBILE TOP

In looking after the automobile top fabrics, the leathers, hand or machine buffed, so long as the enamel remains in good condition will need when mud splashed or stained with the accumulations of travel, scarcely more than wiping off with a soft wool sponge wet in a weak solution of castile soap and soft water. It is a good plan to defer the application of dressings, renovators, etc., until the wear of the goods makes these renewal mediums necessary. The same advice applies to the artificial leather products. For mohair, the whisk broom deftly used furnishes the most dependable results. The use of benzine, gasoline, naphtha, alcohol, or any other solvent, for cleaning the mohair top should be strictly prohibited.

In coating the leather, rubber or arti-

ficial leather top the never to be violated rule should read: "Apply sparingly." A little of such mediums may with profit to the car owner go a long way. At the same time, some good reliable dressing material becomes a necessity in due course.

ADVANTAGES OF TWO-POINT IGNITION STATED

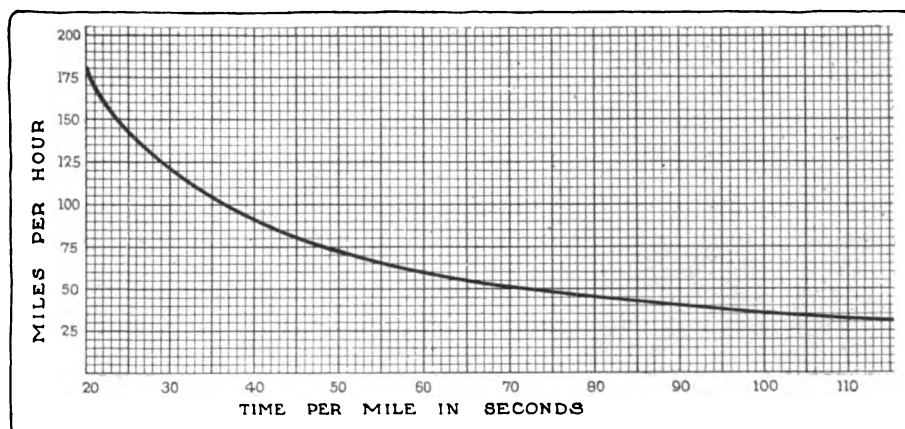
It is a fact not generally known that with most motors two-point ignition gives increased power. It is obvious that if the ignition occurs simultaneously at two or more points in the cylinder the time required for the complete inflammation of the charge must be reduced. This fact is demonstrated by a test of a 24-horsepower motor in which an increase of 4 horsepower was obtained with two-point ignition. Twenty-eight horsepower was obtained with only 32 degrees advance, as against 24 horsepower with 45 degrees advance with the single system. This test was made some time ago in the laboratory of the Automobile Club of America.

Aside from increasing the output, the system has the advantage of greatly reducing the ill effects of a defective spark plug or cable, inasmuch as the two plugs are in series with the source of current it follows that the failure of one of them will not interfere with the operation of the other.

There are two ways in which two-point ignition can be obtained, probably the simplest of which is to make use of what are termed series spark plugs. The other method is to use a special magneto with a double distributor. It is not possible to use two ordinary spark plugs for the purpose unless separate leads are taken from the magneto distributor and this is seldom advisable owing to the complicated wiring.

Red Lead Cement for Face Joints

One part white lead, 1 part red lead, mixed with linseed oil to the proper consistency.



Curve for quickly finding miles per hour when time per mile is given. For example, if the time for the mile is 40 seconds, the miles per hour is 90. This is determined by following the 40-second vertical up to the curve; the horizontal line intersecting this point is the 90-mile-per-hour line

WIDE-AWAKE MERCHANDISING

SOLD 1000 BOTTLES IN A SINGLE DAY

How Special Value Sales Have Built Bullock's Business

SELLING 1,000 Thermos bottles in a day is the latest achievement of the accessory department of Bullock's store, Los Angeles, one of the largest department stores in the west.

A few years ago Bullock's accessory department was so unprofitable that the management decided to close it out. One morning the proprietor of the great store sent for a young man by the name of C. F. Kemp, who at the time was employed in another department of the store.

"Kemp," said the head of the institution, "I want you to take that automobile accessory department and get the money out of it. Close it out."

Young Kemp's answer was action.

He started to get the money out of the accessory department and it developed into a great gold mine. He is still getting the money out of the department and the sale of 1,000 Thermos bottles seemed nothing out of the ordinary for the manager of the busy department and his twelve clerks.

Made Careful Preparation

Every year Bullock's conducts one great sale. This annual sale takes place the first week in August and every department offers special values of some kind at that time. The department managers purchase goods especially for this special value sale and this year the manager of the accessory department decided upon Thermos bottles.

Before the store opened 750 bottles were placed on the counters, wrapped and inspected, ready to hand out. The cash register was placed on the end of the counter so that customers did not have to lose a minute in getting their change.

The supply was exhausted by 11 o'clock that morning and a force was put to work wrapping the remaining 250 bottles. These were sold out as fast as they were brought in from the stock room. Every bottle was inspected be-

fore it was wrapped and a card bearing the number of the inspector was placed inside the wrapping. This card also carried printed instructions for the user.

Long before the store closed the Thermos bottle supply was exhausted. Hundreds of calls were received over the 'phone and many mail orders were received. These were rejected, as the conditions under which the bottles were sold at such a reduction called for the purchaser to call personally at the store.

Several days after the sale 'phone orders and mail orders continued to reach the store, and the manager of the department said a few days later that he could have sold 10,000 bottles if the sale had continued all week and not been limited to cash sales over the counter.

Big Stock Increase

The 1914 special value sale was one of tires. The sale lasted three days and in that time the department took in \$5,000 per day on special tires alone. During the days of the tire scare at the beginning of the European war last summer, Bullock's purchased a \$25,000 supply of tires from factory branches located in Los Angeles in one day. This supply was exhausted within about two weeks and the order was duplicated.

When Kemp took the department it was located on the third floor. The stock was worth less than \$4,000 and one man was all that was needed as manager and salesman. Today the department carries a stock conservatively estimated at \$65,000. The department did a \$250,000 business last year and this figure will be eclipsed this season, according to the management.

The first move of the new manager, when he took charge of the "white elephant," was to start an advertising campaign. The stock began to move almost immediately. The young manager studied conditions and when he saw that there was a demand for a certain article he decided that he wanted to put that in.

CAPITALIZING COURTESY

Absolute courtesy to every one, whether he is a customer or not, is an excellent method of advertising. A pleasant word or a moment's conversation may be the means of a sale later on; or in some cases may result in retaining a wavering customer.

TURNING PLEASURE TO BUSINESS ENDS

Social Calls That Developed Into Car Sales

The need of real salesmen is something that has been admitted everywhere, and Boston is no exception. Here is an instance of how to make a sale. Down at Plymouth, Mass., lives a man who has owned a Marmon car for three years, and he was in the market for a larger model, a six-cylinder. He was invited to go to Boston to look at another make and a salesman had talked to him about it.

F. E. Wing, New England Marmon distributor, knew the man was thinking of a new car and had talked with him one day by telephone. The man had been injured some time before and he was convalescing. So one Sunday Wing took his wife and another man and wife for a motor run to the South Shore, and they stopped off to pay a visit to the man, Wing being interested to know how he was recovering from his injury.

Waited for Right Man

It was purely a social call and the visitors were welcomed. Before they left the man remarked that he was considering a larger model, and in a few minutes arrangements were made to get one. Wing did not expect to make the sale right away, but he felt that it would be neglecting an opportunity not to stop there on the motor trip to show his customer that he had interest enough in him to see if he were getting well.

Last year Wing took a couple of weeks vacation and toured up through Maine and New Hampshire and sold cars by digging out people. In one instance when he asked a man to whom he sold a Marmon 41 why he had not bought a car previously the man told him that he had been in no hurry, but would have bought a car had agents of good cars sought him out. "The men with cars under \$1,000 came around, but I had no use for them," he said. "You are the first man to see me who had a car of the size and price I needed."

There are two lessons in salesmanship.

Service Complaints

Many Are Due to the Ignorance of the Owner—Backbone Will Help Greatly

By Robert Foster

Some dealers are imposed upon when it comes to service because they are poor diplomats. When a customer has an unjust complaint they do not seem to realize that it is not sufficient to be in the right but it is necessary to convince the customer of this fact, and to do this requires diplomacy.

This point is well illustrated by an experience I had last winter in buying a guitar. The instrument was intended as a gift to a friend as a token of my appreciation of a very valuable service he had rendered me. Consequently I bought a very fine instrument.

When it was delivered to my home it was laid aside for a few days, as my friend was not then in town. Somebody carelessly placed it against the radiator in the library, and there it remained for some time. Imagine my feelings when I found the instrument ruined. The highly polished wood surfaces were split in many places and the neck warped.

Hot-footed to the Store

Thinking that I had a defective instrument I went immediately to the store where I had purchased it and called for the manager. I was enraged over the idea that I had been swindled and was determined to give him a good laying out.

He listened very politely to my story, although I would not have blamed him for throwing me out when I think over what I said. When I had finished, he replied that he was very sorry but that the practical destruction of the instrument was not due to any defect but to my carelessness in leaving it against the radiator.

He started by saying that the concern wanted to hold my good will but that it could not be considered liable for a new instrument. Then to convince me, he got down several books which showed the effect that extreme heat had on the delicate guitar structure. He showed me the printed instructions regarding the care of the instrument which were in the case but which I had failed to read. He overlooked no detail, he took every argument out of my mouth, so that when I had finished there was nothing for me to do but pay for the repairs.

The foregoing incident was forcefully called to mind yesterday when I was down at the garage getting my car. While there, a man came in for his car, which had just come from the repairshop. His bill was \$12 for some repairs to the clutch of the starting motor, and when

he got it he went up in the air, and then he told the garageman in no uncertain terms what he thought of him.

He had expected the work done for nothing, because the garageman had sold him the car. However, this garageman had plenty of backbone and laughed at the idea of doing the work for nothing. The repairs were due to neglect to lubricate the starter clutch; it was the owner's fault, but the garageman went no further than to tell him so. Evidently he felt that the customer was so sore that there was little possibility of holding his trade, and that there was no use in trying to smooth things over.

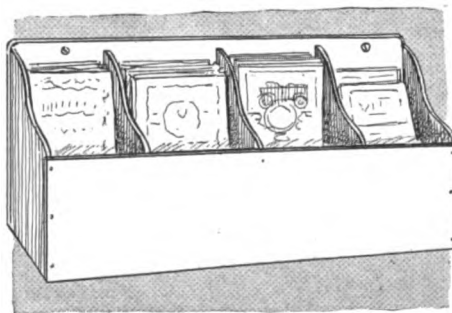
Garageman Was No Diplomat

He might have shown him a copy of the instruction book where it said that the starter clutch must be lubricated every two weeks, or he might have called his attention to the fact that he was told to lubricate this part at the time he was given his driving lessons. The garageman might have started out from the beginning and told him that it was his policy to treat every customer so well that no trade would ever be lost, and then he might have demonstrated why the charge was fair and should have been paid for.

He might have taken up each step in the work and proved to him why the bill was \$12 and why the trouble was caused by lack of lubrication; he might have brought the old parts in evidence to back up his statements. But he let his opportunity slip and thus lost a customer; most garagemen on the other hand would have pocketed the loss and retained the customer, but this would be just as bad from a business standpoint.

The lesson to be learned from this story is that most customers are unreasonable through ignorance.

CATALOG WALL RACK PAYS



A wall rack for holding catalogs and folders is an excellent idea, and a simple design that any carpenter can reproduce in a short time is shown herewith. The main advantages of the rack are that it economizes space and is neat. There is a space for each catalog and they are so housed that they cannot be mussed or disarranged, which is commonly the case when they are placed on a table.—Velie Motor Car Co., Cleveland, O.

DARK SALESROOMS LOSE MANY SALES

Brighten up the Walls and Get Full Advantage of What Light There Is

Many sales are lost because the salesroom is dark and repelling, and because it is impossible to see the details of the car. Brighten up your salesroom. Dark walls should be colored light and artificial light should be used where daylight fails.

Recently the Motor World man was in a typical badly illuminated salesroom. It was long and narrow and all light came from the plate glass window across the front. There was a car in the window and another in the darkest corner, the best part of the intervening space being taken up by the desks of two of the salesmen.

Picture this layout!

The car in the dusk in the back of the room almost invisible, for its color blended with the dark walls, and the best space in the room wasted by the two desks.

Bright colored walls, indirect illumination, and a shift in the layout, putting the desks at the rear and one of the cars in the center, would be an immense improvement. Prospects are not interested in a desk display.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



This salesroom standard for bumpers is supplied by the Gemco Mfg. Co., Milwaukee. It shows the customer at a glance the styles of bumpers and is also an attractive fixture.

Points Every Repairman Should Know— About the Overland

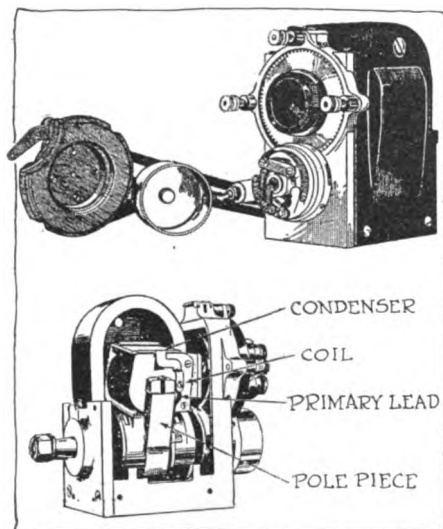


Fig. 1—Dixie magneto used on all Overland cars. Upper shows distributor and breaker covers removed, and the lower shows the interior of the magneto after the sheet steel covers have been removed

THERE are very few things about Overland cars that a repairman cannot see how to do at a glance, because the construction is open and follows standard practice. However, there are some details that require description. The new Willys-Knight is largely patterned after the poppet-valve Overland.

First, taking up those details that apply equally to all three cars, there is little to be said about disassembling the chassis except to note that the clutch can be removed without disturbing any other part by taking out the clutch springs and disconnecting the yoke which connects to the driving shaft; that the quickest way to take the gearset apart

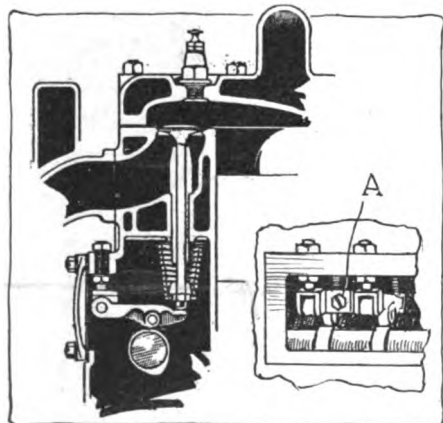


Fig. 3—Valve mechanism of six motor. The bolt A must be loosened before the screws to which the cam levers are pivoted may be raised or lowered. To remove the valves these levers must first be taken out to provide room for lifting out the valve spring key

THIS is the first of a series of articles which will appear from week to week on knotty points in the care and repair of the various popular cars.

Although most cars are much the same, there are details on every one that give difficulty to the repairman the first time he encounters them, and it is the object of this series to give enlightenment on these points.

It is suggested that the repairman save these articles so that they can be used as a ready reference when a car with which he is unfamiliar is brought to him for repair. We will be glad to answer any and all questions pertaining to maintenance.—Editor.

is to remove the whole rear axle unit, although at first glance it might seem to be better to remove it without disturbing the torque tube or axle; and that the pistons may be removed through the crankcase.

The magneto used on all three cars is a Splitdorf Dixie model, Fig. 1. If it is ever found necessary to change the high-tension coil this may be done by removing the top cover plate and the side plate on the right looking at the driving end. As soon as these two plates are off one of the magnets can be pulled

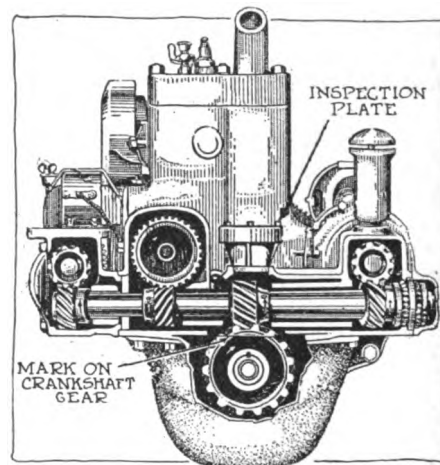


Fig. 2—View of Overland six motor with timing gear case removed, showing mark on crankshaft gear for setting cross shaft which drives the magneto and generator

out, as no screws are used to hold them in place and the coil and condenser are all exposed to view.

By moving the coil structure outward by means of the advance lever, the screws holding the coil and condenser in place can be taken out. As soon as these are removed and the primary lead disconnected, the coil and condenser can be slipped out of place and a new coil and condenser, or both, can be substituted. When the old coil has been removed a screw driver may be placed across the field pole pieces and the pull on the screw driver can be observed as

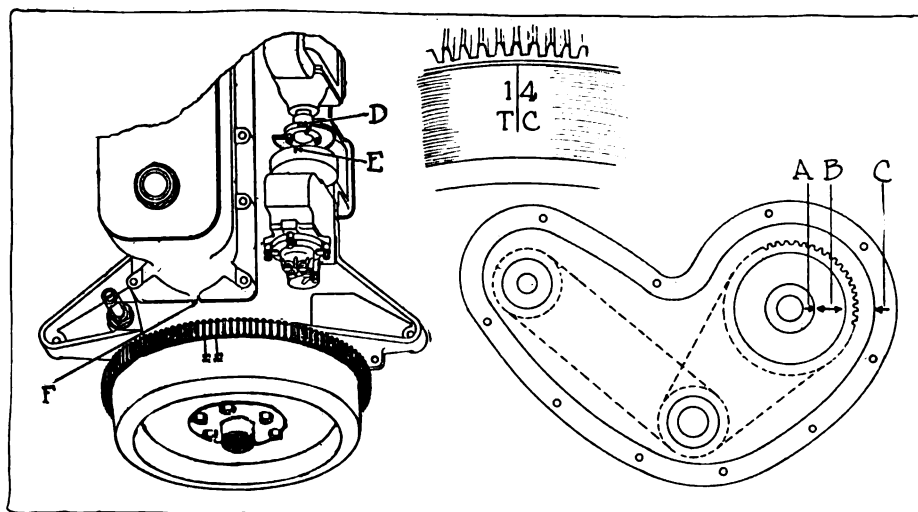


Fig. 4—Left—Markings on flywheel, magneto and generator for easy timing. The marks $\frac{1}{4}$ T/C must line up with the mark F on the crankcase. Marks D and E on the magneto coupling and magneto flywheel must also line up when at the top. The marks on the flywheel are shown on large scale in the center

Fig. 5—Right—Marks A, B and C are for setting the eccentric shaft. A is on the shaft, B on the sprocket and C on the crankcase and all three must be in line. The valve timing is done by placing a small electric bulb in the cylinder to show the exact opening position of the ports in the sleeves and in the cylinder walls. The light shows through as soon as there is an opening

the car is slowly cranked. This is a test for the magnets. After changing the coils care should be taken to see that the screws for holding the coil and condenser in place are properly tightened.

The magneto should not be tested unless it is completely assembled.

The Auto-Lite lighting and starting system is used on all three cars and in connection with this system there is one point to remember: If the circuit breaker should be removed the car must not be operated until a short piece of bare copper wire is securely connected from the terminal of the generator to a brass screw on the nameplate.

If a steering knuckle is bent it is best to replace it with a new one, because bending it cold will not always restore it to its correct shape and heating it may make it too soft.

The timing of the valves on the Overland four is as follows: Inlet opens after the piston has descended $1\frac{1}{4}$ inch from top dead center; closes $5\frac{31}{32}$ late; exhaust opens $7\frac{15}{64}$ inches early, closes $2\frac{32}{64}$ inches late.

In setting the breaker points on the magneto it is well to remember that on the Bosch, which was used on part of the 1915 output, these should be .016 and on the Splittdorf .02 inches.

How Six Is Timed

In timing the six, turn the flywheel until pistons one and six are on top dead center, with No. 1 just completing its compression stroke and ready to fire. On keying the driving gear to the crankshaft, make sure that the straight mark on the face of the gear is lined up with the bottom face of the cylinder, Fig. 2.

Through the inspection plate will be noticed a straight mark lengthwise of the cross shaft. This mark must line up with corresponding mark on the face of the inspection plate.

Lining up the cross shaft automatically brings the four gears keyed on to the shaft in their proper positions. Now it is only necessary to assemble the three driven gears so that the arrow punched on the face or hub registers with the corresponding mark on the housing.

The timing is, measured in inches on the flywheel circumference:

Inlet valve opens late.....1.07 in.

Inlet valve closes late.....4.07 in.

Exhaust valve opens early...5.59 in.

Exhaust valve closes late.... .52 in.

To adjust the valves loosen the lock bolt on the top of the valve lifter bracket and screw the lower nut up or down, as in Fig. 3.

The first important point in the Willys motor is the valve timing.

When the chains are to be reassembled the crankshaft should be turned

1-4

over until the mark (top center No.

T-C

1 and No. 4 piston), Fig. 4, on flywheel

rim, lines up with mark F on cylinder block. Then turn over the eccentric shaft, Fig. 5, until mark A on the hub is in line with mark C on the face of the crankcase. In this position the eccentric shaft chain and sprocket should be assembled. Wrap the chain around the crankshaft sprocket so that when the chain is drawn up taut the mark B on the eccentric shaft sprocket will be in line with mark on the hub, pushing the sprocket in place. With the sprocket in place all three marks should be in a straight line.

Magneto and Generator Assembly

With the crankshaft in the same position assemble the magneto and generator shaft chain paying particular attention that the mark D, Fig. 4, on rear generator drive flange is on top dead center. Wrap the magneto and generator shaft chain around the crankshaft sprocket, which has been pulled off about $\frac{1}{2}$ inch, then set in the magneto and generator shaft sprocket so that when the chain is drawn up taut the keyway will line up with the key in the shaft, pushing both sprockets into place.

With magneto and generator shaft in position slip the magneto in place with breaker set for No. 1 cylinder. The mark E on magneto flywheel should line up with the mark D on the rear generator drive flange.

If it is desired to recheck the timing,

the crankshaft should be turned over until the mark

1-4

(exhaust closing No. E-C

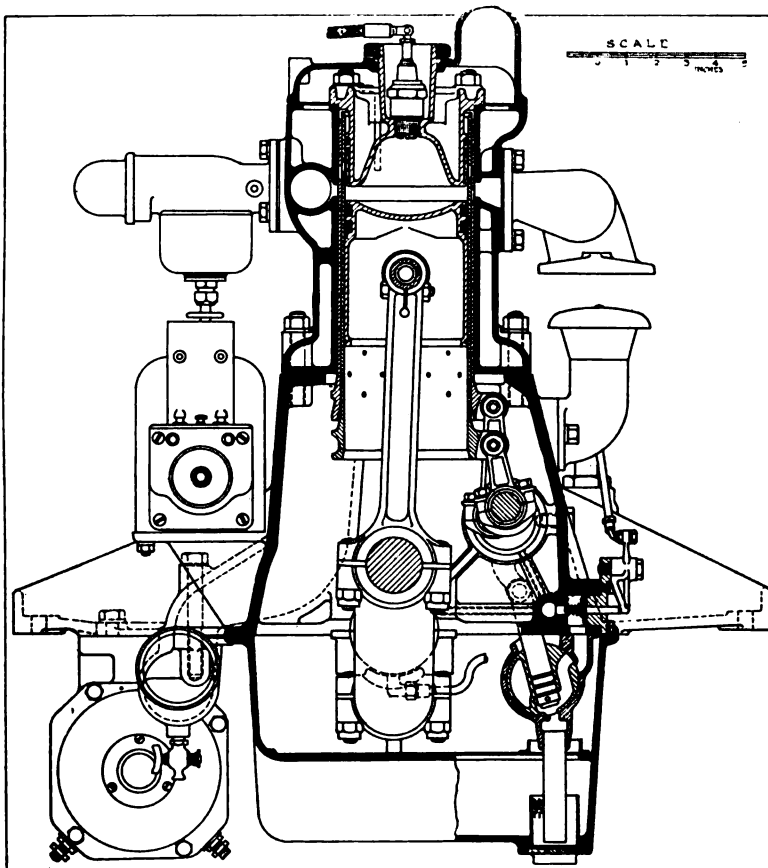
1 and No. 4 cylinder), as shown in Fig. 2, on the flywheel rim, lines up with the mark F on the cylinder. With exhaust manifold removed, and a small electric light dropped down through the spark plug hole, it should be possible to detect a small streak of light appearing between upper edge of outer sleeve exhaust port and lower edge of cylinder exhaust port.

In replacing the cylinder heads, cover and cylinder head nuts, it is well to put a little graphite grease on all gaskets and joints to make them air tight.

When the engine is dismantled, do not remove the sticky oil from under the rings in the heads or on the sleeves around the ports; likewise, do not remove carbon which is packed in the serrations around the exhaust port in the outer sleeves. This composition serves to make the engine compression tight, and it takes considerable running of the motor to pack these grooves and work the oil in behind the rings.

In removing or replacing the heads, have the inner sleeves of the cylinder at the top. The sleeves when in this position allow the rings to be handled easily when setting the head in place.

It is well to note that the spark plug gaps on this motor should be $1/50$ inch.



Vertical section through Willys-Knight motor, showing eccentric mechanism, starter and generator mounting, and oil pump in lower right corner

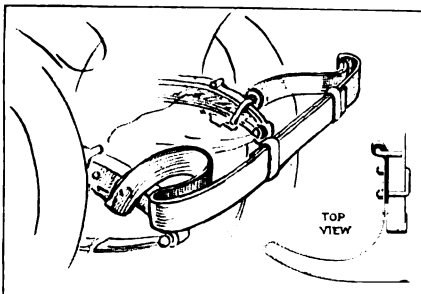


ACCESSORIES & SUPPLIES :

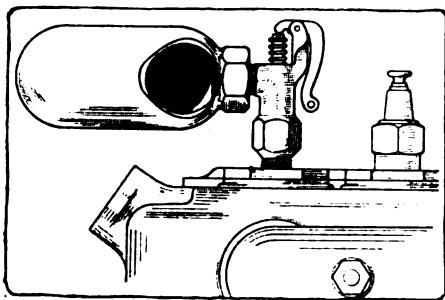
LYON ADJUSTABLE BUMPER

Metal Stamping Co., 13th and 14th streets, Boulevard, Long Island City, N. Y. PRICE, Ford type, black enamel with nicked or brass clips, \$6; nickel or brass plated with black clips, \$8. DEALERS, 25 per cent.

Spring-tempered steel is used in the construction of this bumper, which is made in two sections overlapping at the front and held together by clips. Adjustment for width is made by increasing or decreasing the overlap. An ad-



Lyon adjustable bumper of spring steel



Buell whistle in place on cylinder

justment is provided for moving the bumper backward or forward on the frame to regulate the amount of projection forward; the angle is separately adjustable. Clips and brackets are provided for attaching to practically all the standard cars.

BUELL EXPLOSION WHISTLE

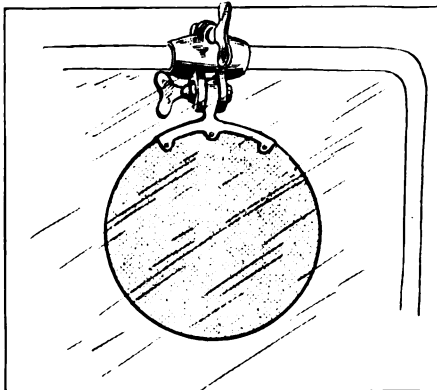
U. L. Mfg. Co., Chicago. PRICE, three-tone, \$6; single-tone, \$4.25; special Ford spark plug, \$1.25.

A small whistle, with either one or three tones, is mounted on the head of one of the cylinders and communicates with the interior of the cylinder through a valve and a small passage. When the valve is opened by a handle on the dashboard the high explosion pressure sounds the whistle sharply. The whistle is 2 inches in diameter. A special spark plug is made for Fords, incorporating a mounting for the whistle. The loudness of the signal is readily regulated by the amount of valve opening.

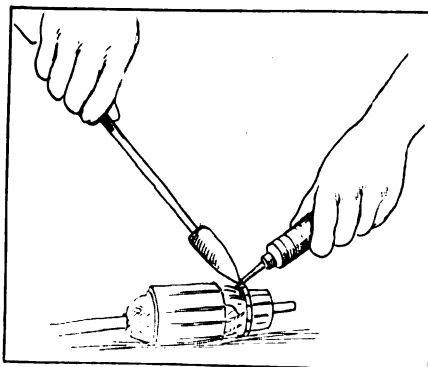
OIL INDICATOR AND ALARM

Turner Brass Works, Sycamore, Ill. PRICE, oil feed indicator, \$2.25; oil register, \$1; automatic motor stop, \$1.

The lubricating oil is caused to flow through a passage in which is a plunger which is raised when the oil flows and seats when the flow ceases. The plunger



Staude glare stopper on windshield



Blake tube flux used in soldering

is so connected with the magneto that the current is grounded when the plunger is seated. Thus, should the oil cease to flow while the motor was running the ignition current would be cut off from the plugs and the motor would instantly stop, preventing damage through lack of oil. The pressure gauge connected with the system has a pin, adjustable as to position, and when the pointer touches the pin the ignition current is shorted. The momentary slowing of the motor lowers the oil pressure and the pointer moves out of contact, permitting the motor to pick up again, but it cannot run faster than the speed permitted by the position of the pin.

STAUDE GLARE STOPPER

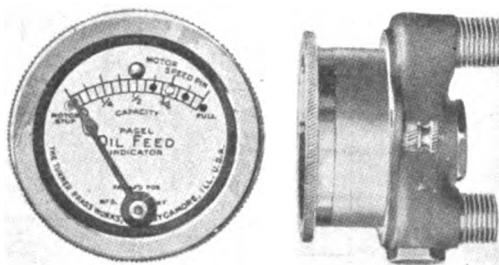
E. G. Staude Mfg. Co., 2675 University avenue, St. Paul, Minn. PRICE, \$2.50.

A disk of heavy amber glass is clipped to the edge of the windshield in such a position that the driver of the car can look through it by moving his head a little to one side, when facing the headlights of an approaching car. The clip incorporates a joint which permits the glare stopper to be kept vertical even when the windshield is inclined. If the glass is broken it may be replaced for \$1.25.

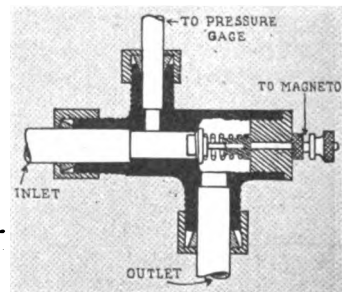
BLAKE TUBE FLUX

Blake Signal & Mfg. Co., 251 Causeway street, Boston. PRICE, 2-oz. tube, 20 cents; dealers, 10 tubes, 20 per cent; 25 tubes, 20 and 10 per cent; 50 tubes, 20, 10 and 10 per cent; 100 tubes, 20, 10, 10 and 10 per cent.

The makers state that the Blake flux for soldering is non-corrosive and, when used for electrical work, has insulating qualities. It is put up in 2-oz. tubes with long aluminum spouts, so that the flux can be squeezed out on the work without danger of melting the spout.



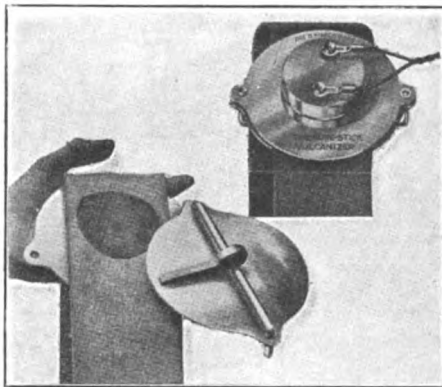
Turner oil indicator and alarm, showing gauge and interior of valve mechanism



SURE-STICK VULCANIZER

Sackett & Ogden, Columbus, O. PRICE, \$3; dealers, 40 per cent.

The Sure-stick vulcanizer is heated by current from any 6-volt storage battery, a special clip and cable being supplied for making the connection quickly. It will vulcanize tube patches and small casing cuts; the makers state that it can be used on tube work while the car is running, saving time in putting spare tubes in order. The clamp can be released and the patch inspected while being vulcanized, and the vulcanizer replaced if the work is not sufficiently cured. Weight, 2 pounds. The outfit includes the usual vulcanizing materials.

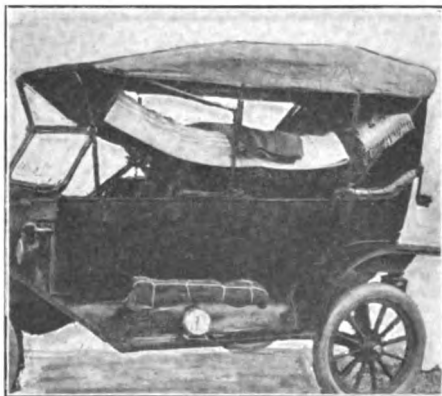


Sure-stick electric vulcanizer

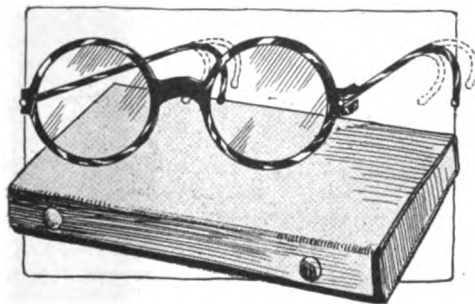
CAMP BED FOR SMALL CARS

Auto Bed Co., P. O. Box 7, Bellingham, Wash. PRICE, Ford type, \$7.50; other small cars, \$8.50.

A canvas bed, utilizing the seat cushions and braced by iron rods, is slung under the raised top of the car and affords comfortable sleeping accommodations for two persons. The makers state that it can be put up in about three minutes. When not in use the bed can



Camp bed for Fords, folded and unfolded



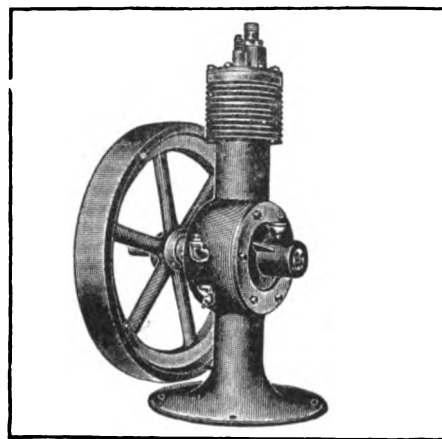
Cohn's Aristocrat motor goggles and case

be rolled into a compact bundle and stowed on the runningboard or any other convenient place.

DAVIS AIR COMPRESSOR

The Hinckley Machine Works, Hinckley, Ill. PRICE, \$27.50.

This is a small garage compressor designed for belt drive. It has a flange-cooled cylinder $3\frac{1}{4} \times 4\frac{1}{2}$, a 20-inch wheel for 3-inch belt, is 26 inches extreme height, occupies a floor space of 16 x 20 inches, and weighs 150 pounds. Piston rings are ground to an accurate finish. A wide flange is provided for bolting to the floor.

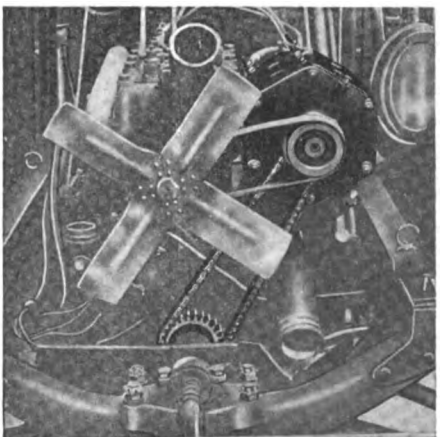


Davis compressor for belt drive

SINGLE DYNETO FOR FORDS

Dyneto Electric Co., Syracuse, N. Y. PRICE, \$75.

This new model is practically the same as that used on larger cars and is 12 volts; a single armature is used which acts as a motor when the switch is first closed and at speeds above 10 miles per hour operates as a generator. Voltage regulation is accomplished through a spe-



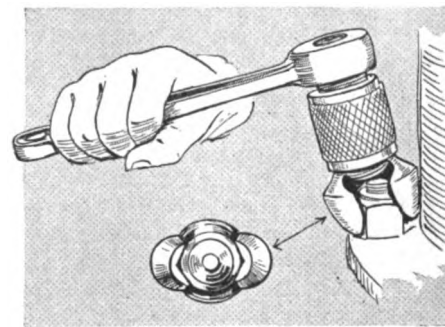
Ford type Dyneto applied

cial field winding. A maximum current of 10 to 11 amperes is delivered at 15 to 20 m. p. h. and this drops to 6 or 8 amperes at higher speeds. The outfit comprises the motor-generator, storage battery starting switch and complete outfit for mounting and driving the unit. The wires are all cut to length and numbered to facilitate installation. The battery is a Willard and is enclosed in a pressed steel box which is mounted on the left running board. No drilling or machine work is required and it is said that the device may be installed in 3 hours.

ADJUSTABLE SOCKET WRENCH

Marvel Accessories Mfg. Co., West Sixth street and Lakeside avenue, Cleveland. PRICE, \$3. DEALERS, 25 per cent.

Adjustable jaws are the feature of this socket wrench; a knurled sleeve is turned to contract or expand them. The chief advantages of the tool are that it will fit odd-sized and mutilated nuts and that it is compact, there being but three parts. The material used is forged steel.



Marvel adjustable socket wrench

COHN MOTOR GOGGLES

Max G. Cohn & Co., Inc., New York.

One of many varieties of goggles carried by this firm is the Aristocrat, which has a very light but strong frame of xylonite with a curved bridge and round lenses $2\frac{1}{4}$ inches in diameter. Other models are the Turtle, in which the temples can be bent to any shape and may be fitted with folding side shields; the Peerless, which is made on the same principle but is of a slightly different shape; the Tourist, embodying the same features and designed to be worn over ordinary glasses; and the Elite, which folds, having a hinged frame.

Trump Piston Ring Prices

The Trump Mfg. Co., Crown Point, Ind., manufacturer of Trump piston rings, states that it was in error in giving the price of its rings as 75 cents each. The price is \$1.75 each.

A Fair Show Example

Page 5

REPAIRSHOP SHORT-CUTS

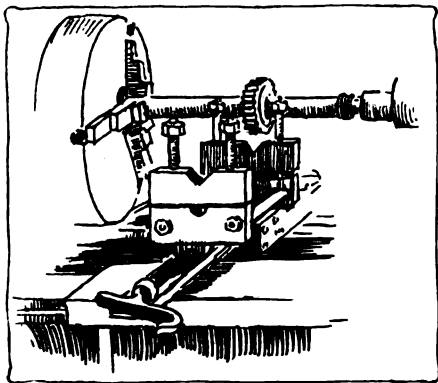
From the **MOTOR WORLD** *Road Man*

Lathe Attachment for Milling (No. 229)

A milling attachment for nearly all work except gear cutting is shown here-with. The milling cutter is placed on a mandrel between centers and the work is clamped to a carriage which is fastened to the bed of the lathe. The carriage is provided with a cross feed.—W. W. Wright, Cleveland Cadillac Co., Cleveland, O.

Heavy Telescoping Tripod (No. 230)

A tripod with telescopic legs is often valuable in pulling a wrecked car out of the ditch, etc. It not only saves time but in many instances prevents further damage to the car. The legs of the device are made 3 inches square and the block and tackle is suspended from the

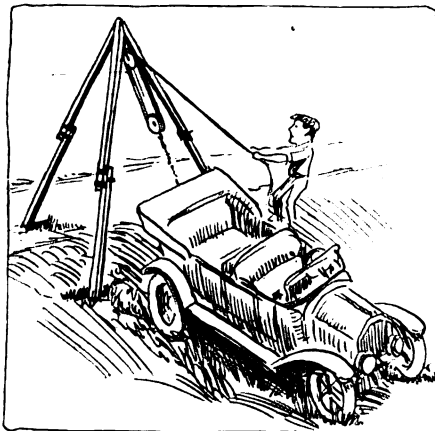


(No. 229)
Milling attachment in place on lathe

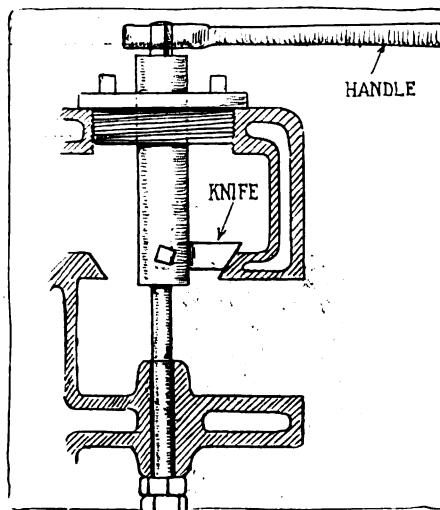
center as shown. The telescopic feature allows the device to be placed in a comparatively small space. When the legs are extended they are held in place by bolts, one in each leg. Each foot is provided with a prong made out of sheet steel to provide a firm foot hold in the dirt.—Smith & Schumann, Fostoria, O.

Glass Disk Cutting Tool (No. 232)

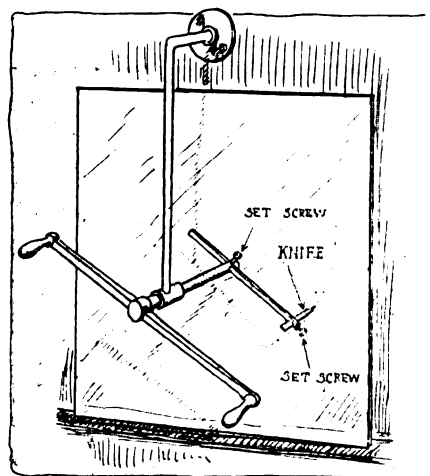
For making circular cuts in glass, gaskets and sheet and metal fiber, the powerful hand compass shown will be found useful. It consists of a strong bracket which is bolted solidly to the wall and which carries the double handle and the cutting tool. There is a set screw in the spindle so that the knife arm can be adjusted to any radius and a set screw on the outer end of the knife arm allows various types of knives or an ordinary glass cutter to be inserted.—Smith & Schumann, Fostoria, O.



(No. 230)
Wrecking tripod and method of using it



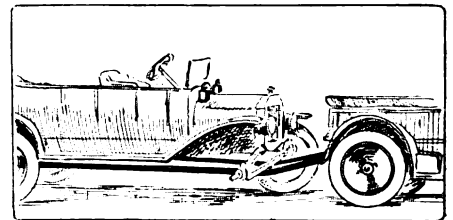
(No. 231)
Universal valve reseating tool



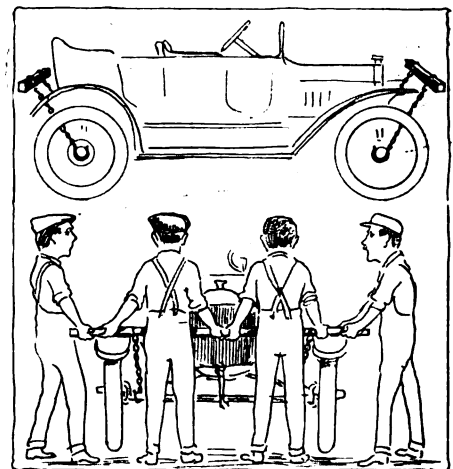
(No. 232)
Adjustable tool for cutting glass disks

Towing a Crippled Car (No. 233)

A simple device for towing a disabled car, and one that may be operated by one man, consists of two lengths of T-section structural steel, 12 feet long, and bent up at one end. The other end of each length has a hook on it to allow it to engage either front or rear axle of the disabled car, as required.—Erwin Greer Automobile Co., Chicago.



(No. 233)
Structural steel car towing device



(No. 234)
Simple method of unloading Fords

Device for Unloading Fords (No. 234)

A device for unloading Fords has two hooks to place under the front axle and two men on each side grasp the handles; at the rear a similar device is used, but only two men are required.—Mr. Lightfoot, Central Auto Co., Clarksburg, W. Va.

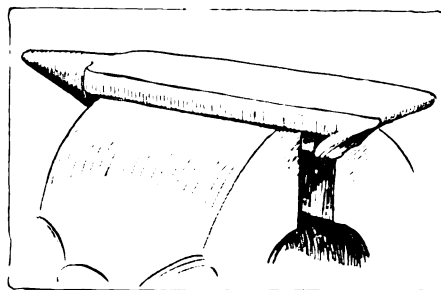
Universal Valve Reseater (No. 231)

This is a universal valve reseating tool. Different sizes of valve caps and of spindles are required. The knife has a 45-degree cutting edge and is adjustable radially for various sizes of seats.—Orville Hauser, Chillicothe, O.

Small Anvil for Vise

(No. 236)

This is a small anvil designed to be held in a vise and is very useful for small work.—Joe Mittermiller, Albaugh Motor Sales Co., Cleveland, O.



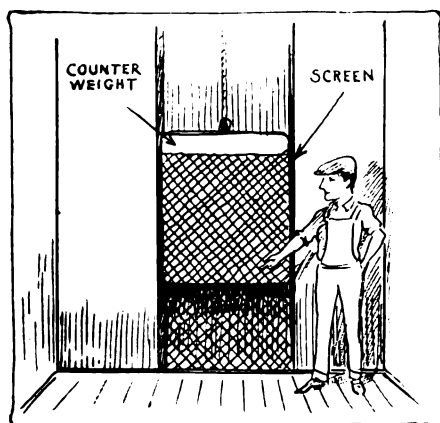
(No. 236)

Small anvil gripped in vise

Time-keeping Card

(No. 237)

A simple system of keeping track of the amount of time put in on a job of any kind is absolutely essential. Here is a simple card that might be gotten out by any printer and that will serve the purpose. It measures about 2½ x 8 inches and is fairly heavy cardboard. It is intended to be used with a time clock, though one is not absolutely necessary. The workman might enter the time in pencil.—Bullard's Garage, Greenwich, Conn.



(No. 235)

Elevator counterweights screened in

Screening Elevator Shaft

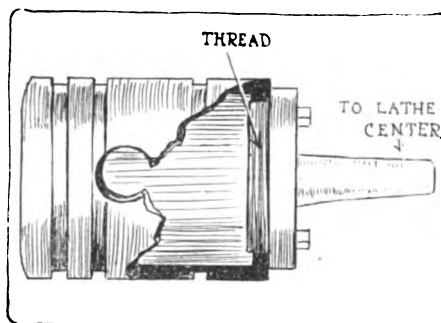
(No. 235)

Where elevators are counterweighted the shaft in which the weight moves should be screened for approximately 6 feet from the bottom. This will prevent accidents to workmen who might find occasion to enter the elevator shaft and will also prevent damage to parts that might drop down the shaft and fall under the descending weight.—Elton Garage, Waterbury, Conn.

Chuck for Ford Pistons

(No. 238)

Here is a simple chuck for turning Ford pistons in a lathe. By making the thread separate from the rest of the chuck, the device may be used for any size of piston; all that is then required for a new size is a new threaded portion.—Orville Hauser, Chillicothe, O.



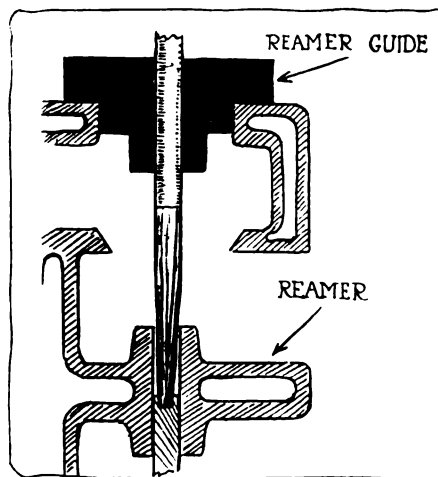
(No. 238)

Chuck for turning Ford pistons

Reaming Valve Guides

(No. 239)

Valve stem guides, when worn, must be either enlarged and bushed or reamed out and larger valve stems fitted, if there was originally no bushing inserted. It is absolutely essential that the guide be perfectly true with the valve seat, and an excellent way to make sure of this is to use such a reamer guide as is shown in the accompanying illustration. It is screwed into the valve port, which is al-



(No. 239)

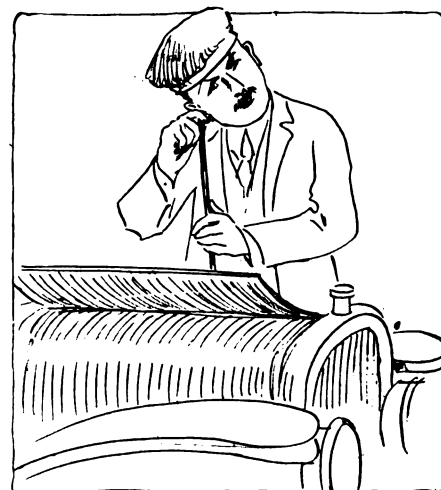
Guide for valve-guide reaming

ways finished true with the valve seat. The threads in the port plug should be lathe cut and the hole for the reamer bored at the same chucking, so there will be no chance that they will not be true with each other.—Orville Hauser, Chillicothe, O.

Magnifying Motor Knocks

(No. 240)

Frequently a motor will develop a knock that is not particularly distinct, but that it is very desirable to correct. The sound may be intensified and its location rendered less difficult by the use of a slender pine rod, as shown in the illustration. One end of the stick is placed on the motor as near as possible to the point whence the knock is suspected to proceed, one finger laid over the top of the stick and the ear applied to the finger. The closer the stick is held to the source of the noise the louder the sound will seem.—G. H. Eckstein, Tacoma Auto Service Co., Cleveland, O.



(No. 240)

Stick for locating motor knocks

Convenient Water Supply

(No. 241)

There should be a hose adjacent to the gasoline pump in every garage, as water is just as necessary as air or gasoline, and when a car stops for gasoline it requires no extra time to fill the radiator. The hose should be kept off the floor, however. The water pipe is carried to a point near the ceiling and the hose is attached there. It hangs low enough to reach the filler opening and that is all. A spring-closed faucet valve such as may be purchased at any hardware store or plumber is placed in the pipe line, the valve automatically closing as soon as pressure is released so that no water is wasted.—Kaiser M. C. Co., Columbus, O.

Handy Compartment Box

(No. 242)

Overhauling work may be speeded up by using a box with several compartments for the various parts as they are removed from the car. All carburetor parts should be put in one compartment, for example; another might be used for bolts and nuts, a third for rear axle parts, and so on. By thus systematizing the work considerable time will be saved when it comes to reassembling.



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A Fall Fair Example

NO better example of what results can be obtained through organization and close cooperation can be found than the experience of the Milwaukee dealers in conducting their fall fair show, the story of which appears on page 5. For 7 years the Milwaukee dealers have been conducting shows at the fall fair in a desultory sort of way—merely exhibiting—merely taking what space was given them. In consequence, the results were not at all what could be desired. The dealers were dissatisfied. It was hard to get interested prospects to visit their exhibits; it was harder still to keep them in the exhibit spaces when the dealers got them there. Few sales were made; few real prospects were obtained.

Show Put on a Business Basis

This year, however, conditions were radically different. As a lever, their organization brought them recognition. They got a real building and they staged a real automobile show. They kept the riff-raff out of the building by charging a small admission fee. Inside the building there was comparative quiet free from the chugging farm engines, clacking farm implements and dust and dirt.

The result is that the show was an unqualified success. Every dealer who exhibited is completely happy. Through staging their show in a businesslike manner these dealers have become convinced of the genuine value of a show held at this time of the year when the farmer is in a position to buy cars and when the market for closed cars is just opening up.

If it came to a vote now, as to whether the fall fair show or the annual winter show in the auditorium should be dropped, there would be no more shows in the auditorium. That is how well the Milwaukee dealers view the fall fair show. But their experience has demonstrated beyond the possibility of question that to be successful, the fall fair show must be run in a businesslike manner and not on the hit or miss principle that too often has characterized such events in the past.

Specific Instructions

IT IS an oft-proven fact that the car owner who experiences trouble will usually mentally associate the car and the trouble, and so may become prejudiced—possibly unconsciously—regardless of the cause of the trouble. For this reason, if for no other, it behooves the dealer to be very sure that when instructions are given for doing anything, especially if it is out of the ordinary routine, they are correct, complete and clear.

Re-lining brakes, for example, is a simple enough job for the experienced man, but it is a little surprising to observe the number of brake drums that are cut up by rivets of the wrong kind improperly inserted; of linings prematurely worn out because they sag away from the bands; of brakes that drag because readjustment was neglected after re-lining; of brakes that are ineffective because they merely need washing with gasoline or kerosene. The safest way is to assume that the person being instructed doesn't know anything about the job and to leave nothing to be guessed at—not even the things to "look out for."

Building Good-will

A WELL-INFORMED salesman who will take the trouble to place his knowledge at the disposal of customers is an asset in any accessory store, and an asset of no less value because the giving of information may serve in some cases to cut down the amount of a sale. To exemplify: A car owner went to an accessory dealer and told the salesman who waited on him that he wanted some high-tension cable of a certain brand, explaining that he was going to re-wire his car. "I guess I'll need 60 or 70 feet," he said. The salesman asked what the car was and on being told at once saw that the order was far too large. "You don't need all that," he said. "Thirty feet will be enough and will leave a little for waste." As the cable was quite expensive the 40 feet cut off the order was rather an item; but the customer was so well pleased with his treatment and with the salesman's evident alertness to the customer's interests that he thereafter bought practically all his supplies from him. Incidentally, when the salesman went to another store the customer went with him—which fact opens up another field for thought.

Two More Dealers Decry Curbstoner's Operations

Both Agree That Best Way to Combat the Evil Is to Give Customers Excellent Service—Need of One-Price Business Principle

Referring to the article appearing on page 13 of the September 8 issue of Motor World in reference to curbstone dealers in our territory, would say that the writer has experienced no trouble with this class of automobile highwayman in this vicinity.

Years ago there used to be some bother, but the manufacturers doing business in this vicinity all seem to be sensible enough to try and do their business through legitimate dealers.

My knowledge of the subject covers pretty thoroughly Connecticut west of the Connecticut river, and the same freedom from this nuisance prevails throughout all this territory as well as in New Haven.

It would seem to the writer that the way for the legitimate dealer to combat this evil is to give his customers such good service after they have purchased a car from him that when talking to prospects who might consider doing business with the curbstone gentry that he

could use his service as a big argument for purchasing from him instead of the curbstoner.

It seems to the writer that your paper could do a valuable work among automobile manufacturers in getting them to see the utter foolishness of carelessly allowing this class of people to handle their business, because, although they make a sale in a town, it undoubtedly does them far more harm than if they stayed out entirely.

W. A. Rutz, General Manager,
The White Motors Co.
New Haven, Conn. Sept. 11, 1915.

Much Business Is Lost
Editor Motor World:

In reference to the curbstone dealer, we are always bothered more or less with this type, although in the past few years I think they have grown less in Hartford.

The only way that I have combatted this sort of competition has been to set forth as much as possible my advantages of service equipment and facilities for same. I have maintained a one-price business and found it the only successful way to do business. However, every year we certainly lose some good clean business by the curbstone methods and I am at a loss to know of any real way to get at the seat of the trouble, unless it might be through the manufacturer.

Rest assured that I read the Motor

World every week with much interest. I appreciate the interest that you are showing in dealers all over the country and assure you of my hearty cooperation in the good work that you are doing.

R. P. Taber,
Hartford, Conn. Sept. 11, 1915.

Trolleys Stop Cars in Boston

BOSTON, MASS., September 15—Boston motorists are now faced with another problem, that of stopping machines every time a street car stops. The Board of Street Commissioners has added another traffic regulation to its rules and every motor car approaching a street car that has stopped to take on or let off passengers must come to a stop. At a hearing it was pointed out to the commissioners by President John M. MacAlman of the Boston Automobile Dealers Association that the proposed new regulation is not necessary. The commission will make a decision in a few days. A similar plan was put before the state legislature last January by the Highway Safety League, but it was given leave to withdraw.

Larger Plant For Scripps-Booth

DETROIT, September 13—The Scripps-Booth Co. is having erected a three-story plant on Bellevue avenue, across from its present location. When this plant is completed a production of 100 cars a day will be possible.

Oldest Dealers



J. A. HOLSMAN
King, Des Moines

Men who have handled one car for the longest period of time. Others will appear in this series



Holsman-Stevens Automobile Co.'s Des Moines King headquarters

THE oldest dealer of the King Motor Car Co., Detroit, is the Holsman-Stevens Automobile Co., Des Moines, Ia., of which the principal is J. A. Holsman. Holsman took the King agency January 3, 1913, and has handled it ever since.

J. A. Holsman was one of the founders of the old Holsman High Wheel Car Co.,

which started in 1899 to make cars. He became superintendent of construction in the first year of production. His next connection was with the Byrne-Kingston Co., Kokomo, Ind., as the company's first traveling salesman. He says: "I remember as though it were yesterday receiving the first order; it was from the Mitchell Motor Car Co., for 300 carbureters, to be delivered during the year; as I remember it about 130 of them were accepted."

The following year he allied himself

with the Bartholomew Co., Peoria, Ill., maker of the Glide, and the following year joined the Maxwell organization and operated in Chicago, Kansas City, Omaha and Des Moines, entering business for himself in the latter city as the Holsman Sales Co.

The Holsman Sales Co. increased its capital July 1 of this year and became the Holsman-Stevens Automobile Co. It has recently leased a prominent location at 11th and Locust streets.

The RETAIL NEWS

MIDDLE WEST

Henry G. Hafner, 444 Washington boulevard, Oak Park, Ill., will build a one-story garage, 20 x 41.

W. W. Gaffin, Fond du Lac, Wis., has let the contract for a two-story garage, 32 x 75. It will cost \$12,000.

Michael Moersch, Fond du Lac, Wis., is receiving bids on a two-story garage, 49 x 100, to cost \$10,000.

S. D. Thompson, Milwaukee, will erect a \$3,500 garage at 217-21 Wells street.

Henry H. Kimberly, 67 Church street, Oshkosh, Wis., will build a garage.

The Cole Motor Co., Chicago, will erect a four-story service station and garage at 23-26 Indiana avenue.

Louis Freter, 634 Wells street, Chicago, will erect a one-story garage to cost \$7,500.

Bakin Bros., 4946 South Wabash avenue, Chicago, will erect a one-story garage, 50 x 70, to cost \$3,000.

Leroy C. Toole, 19 North La Salle street, Chicago, has awarded the contract for a one-story garage which will cost \$4,000.

Joseph Nosek, 1511 South Crawford street, Chicago, plans to build a one-story addition, 45 x 125, to his garage.

Fancher Bros., 1618 Sherman avenue, Evanston, Ill., are securing bids on a one-story garage 50 x 75. It will cost \$3,500.

EAST

The Mountain City Garage Co., Middletown, Md., has been capitalized at \$25,000 with these officers: President, M. E. Kefauver; vice-president, James E. Grove; treasurer, Eugene A. Grove; secretary, D. Princeton Buckley; manager, H. M. Cramer. The company will operate on North Market street.

The Overland-Rochester Co., 158 South avenue, Rochester, will erect a three-story garage and sales building 98 x 197 feet.

B. Rogovin, 54 Heard street, Chelsea, Mass., has let the contract for a one-story garage, 65 x 150, to cost \$15,000.

Kaplan Bros., Newark, N. J., will erect a garage on South 12th street, 30 x 100. It will cost \$4,000.

William H. Carr, Philadelphia, will erect a garage at Hampton and Crefelt streets. The estimated cost is \$3,396.

Walter R. Schiller, Utica, has purchased the interest of G. Wilmer Creswell in the firm of Schiller & Creswell. The company operates a garage and sells the Detroit electric.

Franklin Edgerton, Binghamton, N. Y., will build a garage at 91 Front street.

John P. Neilson, Hartford, will build a one-story brick garage, 50 x 70 feet, at the rear of 100 Hudson street.

Gutzon Borgham, Stamford, Conn., will erect a one-story brick garage, 60 x 120. The estimated cost is \$9,500.

The U-Auto-Varnish Co., 2 American row, Hartford, Conn., has established a service station at the rear of 1125 Main street, East Hartford, Conn.

The Britton Co., 121 Allyn street,

Hartford, Conn., state distributor of the Stearns-Knight, has established the following sub-agencies: H. E. Bradford, Waterbury, Conn.; F. W. Roberts, Northampton, Mass., and R. H. Britt, Springfield, Mass.

B. L. McGurk, Hartford, Conn., has taken the Brockway truck agency.

F. L. Caulkins, Middletown, Conn., Chalmers distributor, has taken on the Dodge in Middlesex county, operating under the Hartford Motor Car Co., 410 Main street, Hartford, Conn.

Burdette Smith, formerly traveling representative of the Burroughs Screen Co., has joined the retail sales staff of the Hartford Motor Car Co., Dodge dealer.

The Stanley Motor Carriage Co., Newton, Mass., has taken possession of a new three-story fireproof structure for its branch in Worcester, Mass., at 185 Commercial street. It formerly was at 31 Central street. The building includes a car salesroom, offices, accessory department, service station, garage and modern rest room accommodations for tourists. There is room for 90 cars. O. P. Tyler is manager.

C. E. Trace, Baltimore, who has the Garford agency, with headquarters in the Apartment Garage, Whitelock street, near Callow avenue, has taken the agency for the Standard eight, manufactured by the Standard Steel Car Co., Pittsburgh.

The Little Giant Sales Co., of which E. H. Habersham is president, and which is the distributor of the Reo and Little Giant trucks, has added the Standard Motor truck.

Charles Potter, of the Potter Wagon Works, Lewistown, Pa., will erect a garage. It will be styled Potter & Sons Automobile Garage Co.

The Hartford Auto Painting Co., Hartford, Conn., now located in the Kingsley & Smith Garage on Elm street, has leased the top floor of the new Hartford Motor Car Co. building at the rear of 410 Main street.

CANADA

The Winnipeg branch of the Cadillac Motor Sales Co. will move into a three-story building at Carleton street October 1. The building formerly was occupied by the Detroit Electric Service Station. The Cadillac and Dodge are handled.

William Keith, Comber, Ont., plans to erect a garage to cost \$5,000.

NORTHWEST

H. P. King and E. G. Belden, Omaha, have opened the King-Belden Garage at 723 South 27th street.

Lee Bevier, Clinton, Ia., is opening salesrooms at 123 Sixth avenue, where he will handle the Jackson.

Ernest A. Cunningham, Oskaloosa, Ia., has purchased an interest in the Central Garage & Supply Co., 213-15 South First street. The other partner is Homer Stanley.

G. Calkins, Austin, Minn., has removed his painting and repairshop to a location on Lincoln street and has adopted the

name Austin Auto Painting & Trimming Co.

The Central Garage, Dubuque, Ia., will be opened at Seventh and Locust streets by M. C. Hurd, John Irish and others.

S. Stenvord, St. Cloud, Minn., has awarded the contract for a \$10,000 garage.

C. L. Stebbins and A. R. Robert, Crookston, Minn., have bought the Olds garage and automobile business.

The Gary Auto & Supply Co., Gary, Minn., has been organized by O. H. Thordal, P. J. Groth, H. J. Hanson and M. F. Hanson.

Stowe & Siverson, Rosholt, S. D., have taken over the Rosholt Motor Inn and will operate it.

Sadmon & O'Gara are building an extensive addition to the Palmer House Garage, Sauk Center, Minn.

The Emmons Auto Co., Emmons, Minn., has begun the erection of a garage, 46 x 90 feet, of brick and cement blocks.

The Krummer Mercantile Co., Minneapolis, has incorporated at \$15,000 to operate a garage and repairshop. Officers: President, Michael Kummer; vice-president, N. E. Kummer; secretary and treasurer, Mathew F. Kummer.

The Motor Inn, Inc., Albert Lea, Minn., will be enlarged.

B. O. Henjum, Wells, Minn., has leased the garage just erected by H. J. Bishner.

W. R. Coyn, Minneapolis, has bought the repairshop in the Studebaker Garage in Litchfield from B. H. Koenig and John Lien, and will add machinery.

C. C. Stafford, Velva, N. D., has disposed of his interest in the Velva Auto Co. to his partner, L. C. Stearns, of Minot, N. D. W. E. Slaybaugh, formerly interested in the company, is manager. The company will continue as agent for the Overland.

SOUTHWEST

The Adams Auto Supply Co., Chillicothe, Mo., will erect a garage 70 x 112 feet.

Webb & Co., Temple, Tex., has opened a supply store. The company has been doing business in San Angelo for several years.

J. A. Machin, Argenta, Ark., who recently sold his repairshop to Yeager & Pfeifer, of Little Rock, has opened a garage at 113 East Washington avenue. He will sell accessories.

The O. J. Watson Motor Car Co., Hutchinson, Kan., which recently was made Overland distributor, has located in the new Myers Garage building on Sherman street east. E. R. Norris is manager.

David Block, Wynne, Ark., is erecting a garage 40 x 80.

T. J. Crossland, Argenta, Ark., has sold the Argenta Auto Repair Co., 508 Main street, to A. D. Reeves, of Baring Cross. Reeves will add to the equipment.

J. C. Phillips, Lubbock, Tex., has let the contract for a garage 50 x 115.

W. R. Griffin, Stockton, Kan., has leased the Big Garage in Plainville. He will remodel it and continue the business.

The Hilko Rim Lock Co. has opened an office at 4629 Delmar boulevard, St. Louis. M. R. Cohn is manager.

The Schoellhorn-Albrecht Machine Co., 416 North Main street, St. Louis, has been made distributor of the Imperial and Marion in East Missouri and

Southern Illinois. Retail sales in St. Louis will be handled by the Jeffery Motor Sales Co., which also continues the Jeffery.

The Firestone Tire & Rubber Co. will erect an eight-story building, 50 x 115, at 20th street and Grand avenue, Kansas City. The company will use the lower floors and lease the upper floors.

W. S. Wood, Strong, Ark., has opened salesrooms for the Overland.

The Union Motor Co., Arkansas City, Ark., of which Vaughan & Fowler are the proprietors, has taken possession of a new building at 407-9 South Summit street.

Robert Elam, Little Rock, Ark., has opened the Oakland Garage at 119 Maple street. He has the Cadillac agency and will also sell accessories and supplies.

The George C. Brinkman Motor Car Co., 2818 Locust street, St. Louis, has been made distributor of the King.

D. Fellenstein, St. Joseph, Mo., has let the contract for a garage 21 x 21 to cost \$1,500.

J. I. Jacobs, Clarence, Mo., has purchased the interest of his partner, F. C. Bond, in their garage. Bond has entered the restaurant business.

Cleremont Rider, western distributor of the H. & D. Shock Absorber, has opened an office at 3667 Olive street, St. Louis.

The Battery Service Co., St. Louis, has opened a station at 23rd and Locust streets, where it will render all day and night service.

The Johnson Automobile Co., St. Louis, has taken the agency for the Hollier in the eastern half of Missouri and the southern half of Illinois.

The Uniplex Construction Mfg. Co., St. Louis, has opened a salesroom at 2314 Locust street. The company makes and retails the Uniplex knock-down garage.

SOUTH

Clifford Snyder, Greenville, S. C., will open a garage on West Main street and will handle the Allen.

John F. and James Cason, Murfreesboro, Tenn., have purchased the garage and agency of Elam & McCullough and have removed the business to Maple street. They will handle the Studebaker and Maxwell and in the new quarters have a ladies' rest room and modern conveniences for tourists.

The Ten Broeck Tyre Sales Co., Louisville, Ky., has closed its downtown store at 542 South Third street and moved its salesroom to the factory at 26th and Courtney streets.

The Thomas Garage, Second and Guthrie streets, Louisville, Ky., agent for the Winton, is remodeling its garage.

PACIFIC COAST

The Automobile Tire Shop, 1107 First avenue, Spokane, has been made distributor in that territory for the Knight tire.

W. P. McLean will build a garage in Pendleton, Ore.

The Independent Auto Co. will build a garage and machine shop in St. Helens, Ore. C. E. Stevens is manager.

W. H. Hahn, Hollywood, N. Mex., has sold his garage and Cadillac agency to the H. H. & A. Motor Co.

G. W. De Armond, Colton, Cal., has opened the second garage in that city during the past 30 days. The new es-



F. J. DeLANEY
White, North Carolina

District Representatives

XXV

This is No. 25 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

F. J. DeLaney is district representative for the White Co., for both cars and trucks, for the state of North Carolina, with headquarters at Norfolk, Va. He entered the motor car industry in its very early stages, working on the experimental models of the single-cylinder Oldsmobiles and afterwards having charge of the engine assembling department for several years. He was with the Buick Motor Co. before they built cars for themselves, and remained with them in the capacity of master mechanic until 1909, when he took up sales work with the same company. In 1911 he transferred his allegiance to the White Co., with which he has been identified ever since.

tablishment is known as De Armond's Garage and handles Miller tires in addition to oils and other supplies. This is the fifth automobile house on I street.

The Aston Motor Car Co., Los Angeles, southern California distributor of the Pullman, is now located at 1310-12 South Grand avenue in the large building formerly occupied by the Mission Motor Car Co.

Coleman Bros., Tacoma, operating the Commercial Garage, have recently taken the Pierce county agency for Paige cars.

The Puget Sound Motor Car Co., Seattle, has just opened new quarters at 903 East Pike street. The Reo is handled.

The Hercules Tire Sales Co., Portland, has been formed by Noah Frederick and H. J. Nielson. They have opened headquarters at 302 Oak street.

MOUNTAIN

Harry Hayutin, former bicycle dealer, has opened a garage and rent car business at 1908-1914 Broadway, Denver. He is also putting in a stock of accessories.

Frank Loveland and R. J. Schlacks have opened a garage at 14th and Market streets, Denver, which will cater to the trade from the large number of trucks in the commission house district.

The Wilson Auto Co., 801 Broadway, Denver, Chandler distributor, has taken the state agency for the Empire and the Denver agency for the National.

Lester G. Palmer, Paige distributor for Colorado, has closed his salesroom at 1515 Cheyenne place, Denver, and will retire from the motor car business. The Paige agency has not yet been taken by any other dealer.

L. M. Patrick, 533 Marion street, Denver, has just taken the agency for the Lewis.

Heiser Bros., Denver, have taken the agency for the Velie and have opened a salesroom at 1236 Broadway.

The Hupp Motor Sales Co., Colorado distributor of the Hupmobile and Locomobile, are moving from 220 16th street, Denver, into a new building at 1260 Broadway.

The Auto Sales Co., Denver, a new \$25,000 corporation, has opened a used car and rental business at 1840 Welton

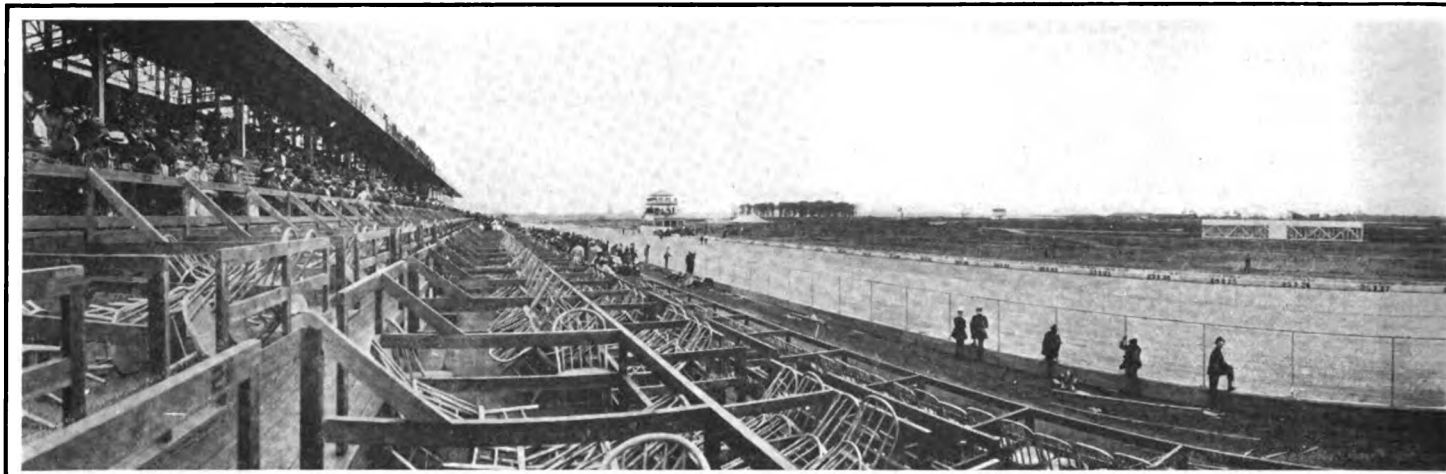
street and also a garage and a filling station. H. W. Curtis is manager.

Boston Chalmers Dealers Gather

BOSTON, September 18—More than 100 dealers who handle the Chalmers line in New England were guests of Harry Pyke, manager of the Boston Chalmers Co., yesterday on an outing at the Breeden Cheese Inn, Cohasset. The party motored from Boston to the inn, in 40 cars with banners in the morning, where a fish dinner was served. During the meal addresses were made by factory representatives. Vice-president C. A. Pfeffer told of the wonderful sales being made during the present time, and how the production had jumped up to more than 120 shipments of cars a day. W. J. Drumpellmann, eastern district representative, spoke about infringements and how the factory would protect dealers. J. M. Cuhelan spoke about advertising and publicity. Manager Stowe of the New York branch gave a few remarks on enthusiasm. After the dinner the party motored back to Boston, where they had a chance to minutely inspect the new 6-40 and have it explained by F. N. Lewis, a factory expert.

More Space For Ajax Tire

TRENTON, September 20—Following the holding of the annual meeting of the stockholders of the Ajax-Grieb Rubber Co., Inc., Horace De Lissier, chairman of the board of directors, announced the payment of 7 per cent on the preferred stock and 24 per cent on the common, with an important amount carried to surplus, and plans for a great new Ajax factory. Upon property owned by the company there is to be built immediately a new building 200 x 350 feet, three stories high, and adding 210,000 square feet of floor space. Foundations are to be capable of carrying three additional stories will be added later.



The 2-mile board Sheepshead Bay speedway which was formally opened for practice for the initial event, the 350-mile Astor cup race, to be held October 2, the infield and to add

Resta Opens Sheepshead Speedway at 108 m. p. h.

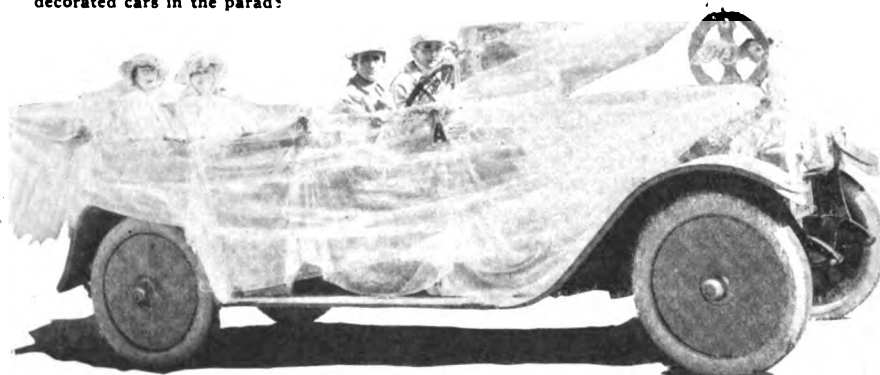
Piloting Peugeot He Puts Record for 10 Miles at 5:32 4-5—Mammoth Parade to Celebrate Formal Opening of Wood Track for Practice

More than 12,000 persons turned out on Saturday last to witness the official opening of practice on the Sheepshead Bay Speedway and saw Dario Resta, at the wheel of a Peugeot, drive 10 miles in 5:32½, which is at the rate of 108.04 miles an hour, and likely will be a new record for this distance.

The car that Resta drove was the one with which he won the 500-mile race on the Chicago board track June 26, when he averaged 97.58 miles an hour, and the match race on the same track August 7, beating Cooper, Burman and Oldfield at 101.86 miles an hour. It is a four-cylinder creation with cylinders measuring 92 x 169 mm. and having a piston displacement of 274½ cubic inches.

Resta thus has succeeded in driving faster than anyone else for 10 miles, the best previous American record being held by George Robertson, who drove

The Cutting-Larson Co.'s Oldsmobile that won first prize for decorated cars in the parade:



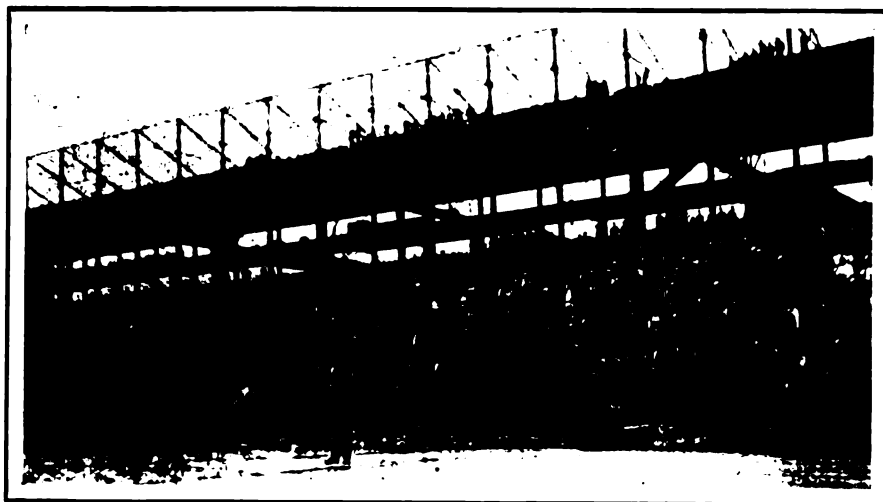
a much larger Simplex 10 miles on the Los Angeles Speedway on April 9, 1910, in 6:35.62. This is a Speedway record regardless of class. The speedway record

for cars in the same class as Resta's—231-300 cubic inches—is held by De Palma, who drove the 10 miles in a Mercer at Los Angeles, May 5, 1912, in 7:27.33.

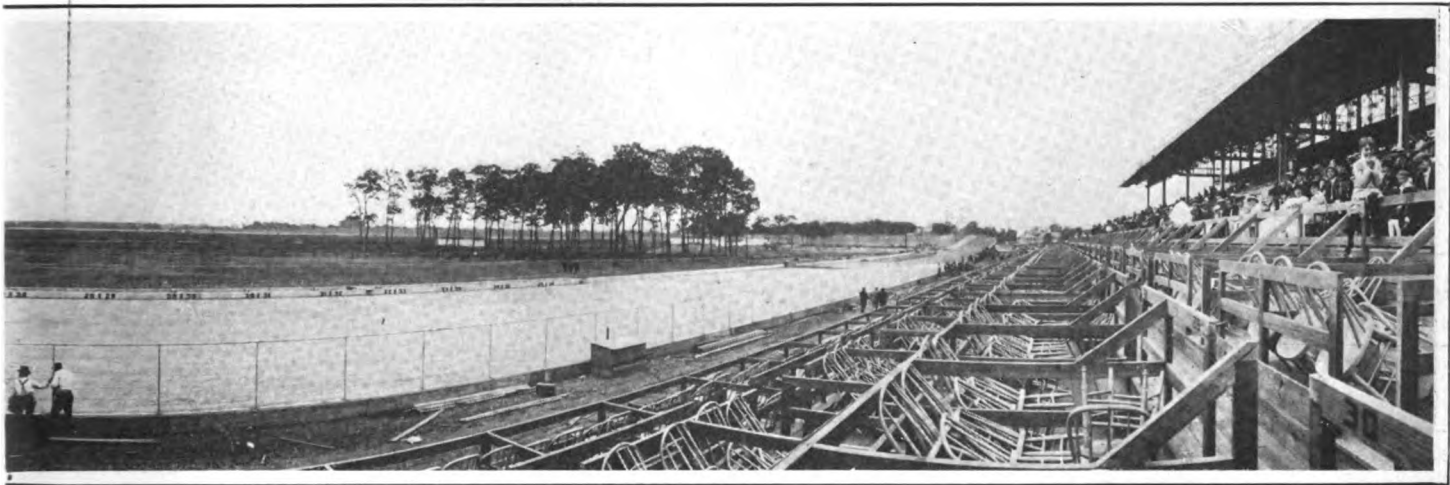
Resta opened the show by driving a comparatively slow lap at about 70 miles an hour, apparently to feel out the track, for it was the first time he had been on it. After he had his motor warmed up he turned the next lap at what appeared to be nearly twice the speed—and promptly retired with two nails through his left rear shoe.

After putting on a new wheel and tire—Silvertown cords were used—Resta started out in earnest to play with old Father Time. The following table gives his time for the five laps of the course:

Lap	Time	Total Time
1	1:06¾	1:06¾
2	1:06¾	2:13¾
3	1:06¾	3:19¾
4	1:06¾	4:26¾
5	1:06¾	5:32¾



A crowd of 12,000 in the big grandstand served but to emphasize its tremendous capacity. But a small section of the stand is shown herewith



is now practically ready for the race. It only remains to roof the grandstand, to put in some of the concrete runways beneath the track for cars to reach a few finishing touches

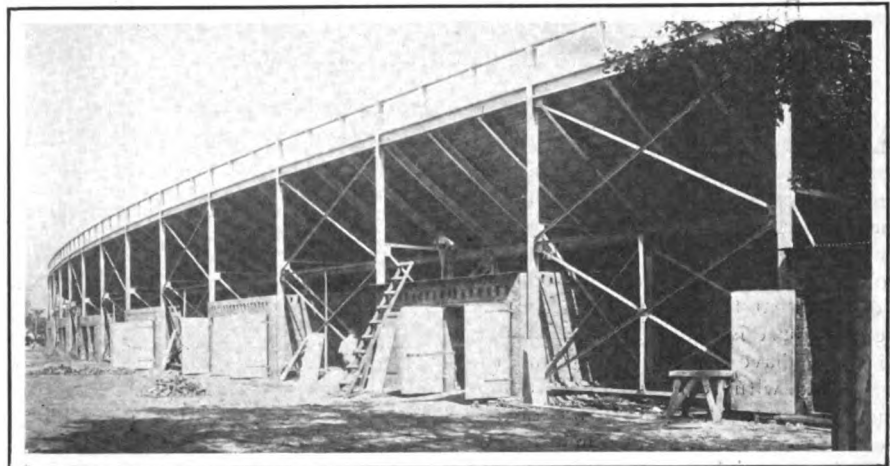
Inasmuch as the event was officially sanctioned by the American Automobile Association and was timed by stop watches in the hands of three experienced operators under the supervision of a representative of the Contest Board, it is altogether likely that Resta's performance will go down as a new record for the distance. The Contest Board requires electrical timing only for events less than 5 miles in length.

Although Resta's performance is a quite fitting introduction of the speedway to the public, he was not the only attraction that drew the crowd of upward of 12,000 to the track. There was a mammoth parade starting from uptown New York, with divisions for beautifully and otherwise decorated cars, and prizes for the winners in the various divisions. An official count gives the number of cars in the parade as 2,247.

C. H. Larson, of the Cutting-Larson

Co., Oldsmobile dealer, took two prizes, one for a car typifying speed and the

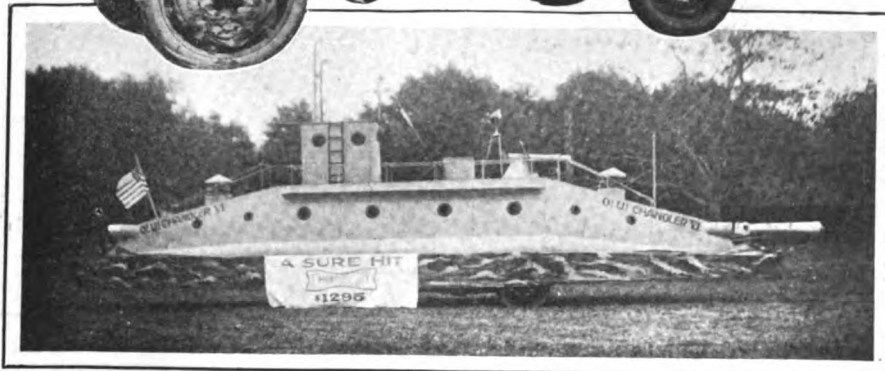
other for a car depicting a "Coontown Honeymoon." The Brady-Murray Mo-



Beneath the banked turns of the great speedway individual garages have been built for the cars of contestants. These are brick and steel and thoroughly fireproof

Lower—The Brady-Murray Motors Co.'s Chandler submarine, prize winner in the advertising section

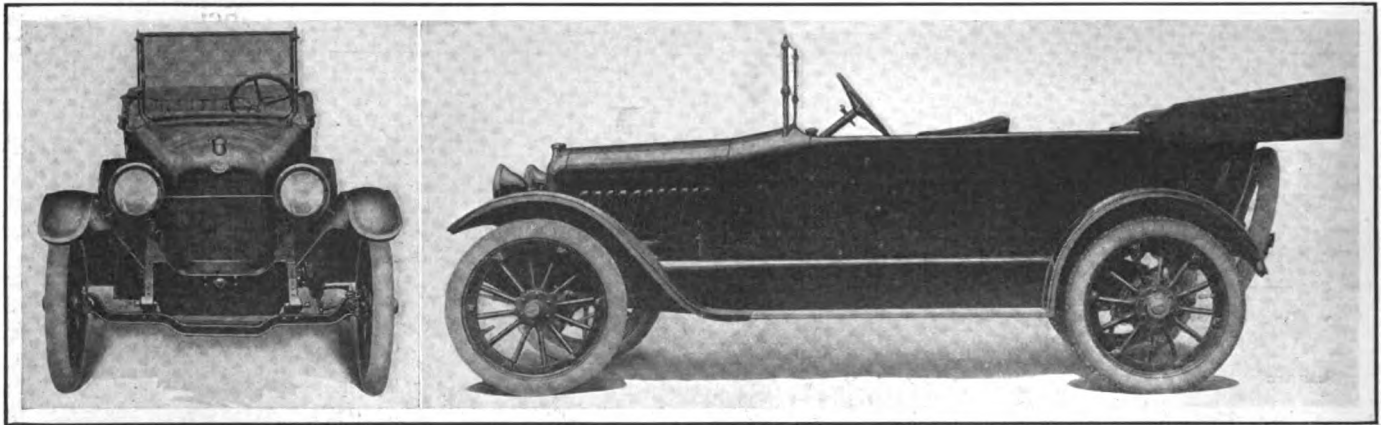
Another of the Cutting-Larson Co.'s prize winners



tors Corp., Chandler dealer, won first prize in the advertising division with a Chandler completely disguised to resemble a submarine.

Following the arrival of the parade at the speedway and immediately preceding Resta's trial, the track was christened by Mrs. Orson Kilborn, daughter-in-law of Horace M. Kilborn, one of those prominently identified with the Speedway, who broke a bottle of champagne with the words, "I christen thee the Sheepshead Bay Motor Speedway to the glory of the God of Speed."

The formal opening of the track for practice for the initial race of 350 miles for the Astor cup on October 2, reveals that practically everything is in readiness for that event. With the exception of putting the roof on the grandstand, completing the concrete runways beneath the track for cars of contestants and spectators, little remains to be done. The track itself is complete, as are the pits, which are not pits at all but are on a level with the track.



A glance is sufficient to show that though the Grant retains its distinguishing marks, it has been vastly bettered in appearance. The increase of 6 inches in the wheelbase permits better body lines as well as more accommodation for the passengers

Grant Six, Much Improved, Still \$795

More Powerful Motor, Longer Wheelbase and Roomier Body Are Among 1916 Betterments—Complete Equipment Included in Price

A BIGGER motor, a longer wheelbase, a more roomy body and other improvements mark the 1916 Grant six, manufactured by the Grant Motor Co., Findlay, O. The motor has been increased in bore from $2\frac{3}{4}$ to 3 inches, the stroke remaining at $4\frac{1}{4}$, and refinements in design also tend to increase power. The wheelbase is 6 inches longer, brakes and clutch have been improved and the car is sold with really complete equipment. Despite these betterments the price remains at \$795 for either touring or roadster models.

The new body lines are a modification of what is known as boat-line design. The sides of the body have been somewhat raised and the cowl brought up higher, with very little difference between the slope of hood and front of car. The hood is also higher, and though the radiator retains the characteristic Grant round form, it is larger and more smoothly built.

In the rear, full three-passenger seating capacity is attained. The body extends over the wheels somewhat and the fenders are set into the wheel housings. This gives a substantial construction and adds to appearance.

The power plant unit takes in clutch and gearset and the rear axle unit incorporates a torsion tube surrounding the drive shaft. The engine is now $3 \times 4\frac{1}{4}$, the gearset has three selective speeds, and the clutch is a cone. Other specifications include Atwater-Kent ignition, Allis-Chalmers lighting and starting, floating rear axle, and cantilever rear springs.

The motor has overhead valves, with the rods running up the left side. The rocker mechanism is completely housed by a cover plate at the top of the motor,

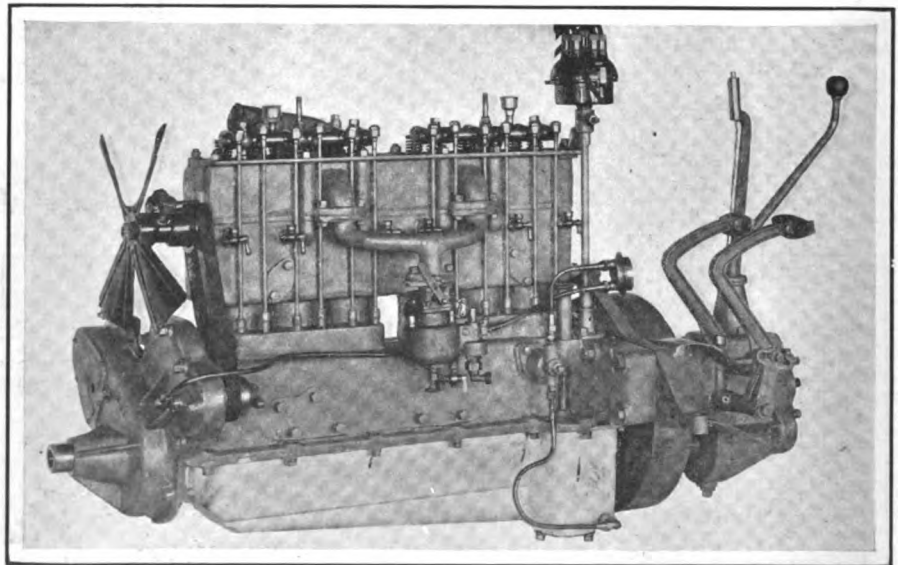
GRANT SIX SPECIFICATIONS

Price, touring or roadster.....	\$795
Color	Green and black
Shape	Overhead valve
Bore	3
Stroke	$4\frac{1}{4}$
S. A. E. rating	21.6
Ignition	Atwater Kent
Starting-lighting ..	Allis-Chalmers
Clutch	Cone
Gearset	3-speed
Wheelbase	112
Tires	$32 \times 3\frac{1}{2}$
Type rear axle.....	Floating
Equipment: One-man mohair top, cover, quick-acting curtains, windshield, Stewart speedometer, electric horn, robe- and foot-rails, floor mats, tire carrier with extra demountable rim, non-skid rear tires, ammeter, gasoline gauge, polarity switch, tools.	

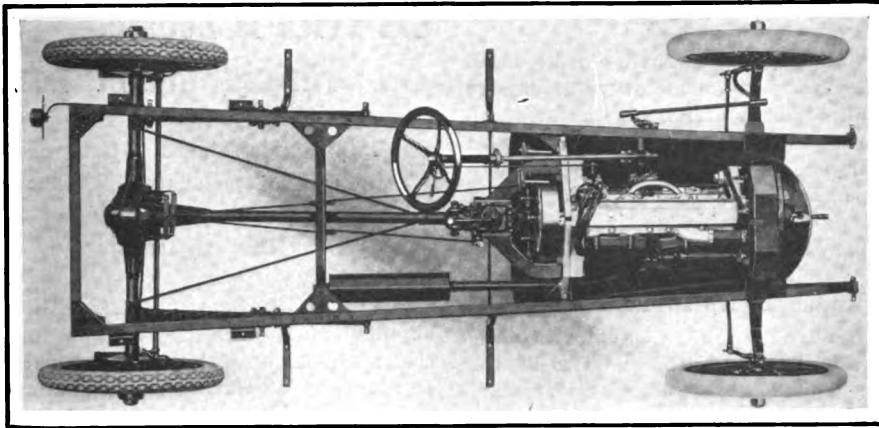
so that all that is visible of the valve mechanism is a portion of the rods. The head carrying valves and rockers, water outlet connection and manifolds is detachable from the cylinder block, which is in unit with the upper part of the crankcase. The exhaust manifold is a separate casting bolting to the right side of the head piece, but there are two openings running to a top-branch manifold to take care of the incoming gases. The distribution passages are cored within the head casting.

In the valve mechanism there is a notable improvement. Instead of using the former mushroom tappets the new form is of roller design. The cams now come in contact with the rollers and thus side thrust is eliminated, making for less wear and noise. The method of assembling the tappets into the crankcase has been changed so that they can now be removed without disturbing the camshaft. The tappets have been bushed and there is no chance for oil leakage past them.

Standard practice prevails throughout the motor and notable smoothness is attained through good running balance



The overhead valve motor, with housing removed from the valve mechanism. The cylinders are $3 \times 4\frac{1}{4}$ instead of $2\frac{3}{4} \times 4\frac{1}{4}$ as formerly. The head, carrying the valves, is detachable



The chassis is clean-cut and neat. A ball-bearing throw-out has been added to the clutch; the rear springs are full cantilevers with trunnions at the centers and are shackled at the front ends

of the reciprocating parts, coupled with rigidity of the crankshaft.

The motor-generator is on the right forward side of the engine base, the head bolted to the housing of the silent chain that drives it, and the rear end supported on a bracket. Between the head of the starter and the housing there is interposed an eccentric drilled with a number of holes. Shifting this eccentric, after the cap screws have been loosened, takes care of the chain adjustment. The storage battery is an 80 ampere-hour type, and it is carried in a special steel basket concealed under the front of the right runningboard splashers. The electric system operates at 6 volts and is of the single-wire type with grounded return.

In the cooling system, which is of the thermo-syphon design, the radiator is the only change. This is of an entirely new design for Grant, having a double construction. The outer shell attaches to the frame of the car and supports the inner core. Thus any weaving of the frame or other stresses to which the radiator might be subjected are absorbed by the shell and are not communicated to the core.

Two gallons have been added to the capacity of the gasoline tank under the cowl, feeding by gravity to the Rayfield carburetor which is fairly high on the left and which is fitted with a water-jacketed manifold. No change has been made in the oiling, which is by a splash system with circulating pump feed and gauge to the cowl board.

The driving mechanism back of the engine is conventional. The gearbox is bolted to the rear of the crankcase by a yoke. The flywheel is unenclosed and the arms of the yoke pass around it to bolt to the rear of the supporting portion of the back end of the power plant. A refinement in the clutch consists of a ball-bearing throw-out mechanism, making it easier to operate and lessening wear.

In the back axle there is no change. It is a conventional floating type. Ball and roller bearings carry the shafts and there is an unusually large plate at the

rear to get at the differential. The gear ratio is $4\frac{1}{2}$ to 1. There has been a widening of the brake bands to give increased surface. The equalizers are mounted on the forward side of the axle housing at the middle, this method calling for the use of but one brake rod running forward to each brake control.

There have been some additions to equipment. The windshield, for instance, is of a new type with curved base and attached directly to the cowl with no filler board. On the rear wheels, non-skid tires are now fitted instead of plain treads. Firestone demountable rims are now used. The tires are still $32 \times 3\frac{1}{2}$. Dimmers have been fitted to the lights. On the cowl board the electric instruments have been nicely grouped and a dash lamp added to illuminate them. In this electric unit group there are the polarity switch, ammeter, the electric regulator and the fuses.

An outward noticeable difference in the new Grant is the standard body color. This has been changed from black to a Brewster green. The fenders, hood and running-gear are still black.

Speed and Efficiency In Carburetor Tests

**Stromberg-equipped Buick Makes 56.2
m. p. h. and 27.5 m. p. g. on One
Carburetor Setting**

CHICAGO, September 18—An economy of 27.5 miles per gallon with the same carburetor setting that gave 56.2 miles per hour is the showing made by a Buick small six fitted with Stromberg carburetor. The test was made by the Stromberg Motor Devices Co. on a car owned by a private user and was under sanction by the American Automobile Association and supervised by Chairman F. E. Edwards of the Chicago Automobile Club technical committee.

The car was a Buick five-passenger model D 45 which has a six-cylinder $3\frac{1}{4} \times 5$ motor with overhead valves, Delco ignition, lighting and starting. A Stromberg model H-1 1-inch carburetor had an exhaust air heater. The dash adjustment was disconnected. Silvertown Cord tires 32×4 inches were used. The top and windshield were down and four passengers were carried. The economy run was over the Chicago boulevards.

A special tank was attached to the windshield. After running 27.5 miles on the measured gallon the car was taken to the speedway where tests for speed and acceleration were made. An officially timed test for one lap of the two-mile speedway with the same load in the car and the same carburetor adjustment as during the economy run gave 2 minutes $8\frac{3}{4}$ seconds for a lap, an average of 56.2 miles per hour. In the acceleration test under similar conditions the car accelerated from a standstill to 30 miles per hour through all the gears in $11\frac{1}{2}$ seconds. On high it accelerated from 5 to 25 miles per hour in $12\frac{1}{2}$ seconds.

Detachable Top for Fords Makes Open Car a Limousine



The Detroit Weatherproof Body Co.'s limousine top for Fords can be attached with wrench and screwdriver and sells for \$77. It is completely storm-proof when closed

Missouri Independents Claim Unfair Methods

**Claim Standard Reduces Fuel Price
Where Competition Is Strong and
Boosts Price Where It Is Light-
er—Protest to Wilson**

ST. LOUIS, September 17—A protest against the methods of the Standard Oil Co. in Missouri was filed with President Woodrow Wilson this week by F. C. Bretsnyder, president of the Bell Oil Co., of St. Louis, one of the largest independent dealers.

In a letter addressed to the President, Bretsnyder charges that the Standard Oil Co. "appears to be making an unprecedented effort to crush competition in Missouri by reducing the price of gasoline while it is advancing the price in states where competition is not so strong." This was done, he alleges, while the price of the crude product was rising steadily.

"In the Eastern states, where there is but little competition," he wrote to the President, "the Standard has advanced its price to correspond with advances in the crude oil. Even in our neighboring state of Nebraska these advances have been made while the Missouri price was forced down."

He points out that while gasoline is selling in New England, Kentucky and Texas for 13, 14 and 15 cents a gallon and in New York for 20 cents, the Standard Oil is selling No. 3—the grade most used by motorists—for 8.9 cents a gallon in Missouri.

In the last two years the Standard Oil Co. has reduced the price of gasoline here from 17 cents to 8.9 cents a gallon and until a month ago the independent dealers met this, though several were compelled to quit business because of the decline in retail price without a similar reduction in the oil fields. Lately, however, the smaller dealers raised the price to 10 cents, but the Standard failed to follow and is still selling at 8.9 cents a gallon.

Spokane Fair Show Draws Farmers

SPOKANE, September 20—While the motor car dealers held a successful show in the Davenport hotel in May, they deemed it wise to avail themselves of the opportunity to show their 1916 models at the 22nd annual Interstate fair, September 13 to 20. Splendid results were obtained by the dealers from the spring show, but the fall show at the fair grounds brought them into closer touch with the great majority of the farmers in the Inland Empire. With the knowledge that the price will be high on wheat farmers at the show have no

hesitancy in paying ample deposits on cars.

While but few cars were sold direct to the farmers, Spokane distributors have appointed many subagents recently and these new dealers were on hand to learn all they could of the new models, introduce their prospects to them, and as a result both the distributor and subdealer are benefitted by the many sales.

Gas Goes Up In Twin Cities

MINNEAPOLIS, September 20 — Gasoline has advanced 1 cent in the Twin Cities after standing for a long period at 10½ cents. The reason given by the independent companies is the reduction of 150,000 barrels in mid-continent crude oil production daily. The fluctuation of the gasoline price for a long period is interesting. In October, 1913, the price was 16½ cents. In December the following year the price went to 12 cents. This price prevailed until June 11, 1915, when a cut was made to 10½ cents, the price which prevailed until September 15, when an advance was made to 11½ cents.

Gasoline 15 Cents in Denver

DENVER, September 16 — Gasoline took another jump of 1 cent today and is now selling at 15 cents at all the filling stations. Some of the garages are selling at prices ranging as high as 18 cents. This has been the second advance of 1 cent in the last two weeks. The 13-cent price in force a few weeks recently was the lowest on record for this territory during the last 15 years.

28 Entries for Sheepshead Race

NEW YORK, Sept. 21—Twenty-eight entries have been made to date for the 350-mile race at the Sheepshead Bay Speedway on October 2. Of these nine are foreign. According to the conditions the candidates must take part in eliminating trials on the speedway next Friday and Saturday. To be eligible to start they must show in a one lap trial of 2 miles an average speed of at least 85 m. p. h. The entries received are:

Driver	Car
De Palma	Mercedes
Oldfield	Delage
H. S. Harkness	Delage
Earl Cooper	Stutz
Anderson	Stutz
Driver not named	Stutz
Driver not named	Stutz
Resta	Peugeot
Burman	Peugeot
Mulford	Peugeot
Aitkin	Peugeot
Wilcox	Peugeot
Moore	Sunbeam
Pullen	Mercer
Ruckstell	Mercer
Rickenbacher	Maxwell
Driver not named	Maxwell
Porporato	F. R. P.
Driver not named	F. R. P.
Chevrolet	Car not named
O'Donnell	Duesenberg
Henderson	Duesenberg
Driver not named	Duesenberg
Vail	Mulford Special
Alley	Ogren
Ora Haibe	Sebring
Bergdoll	Erwin Special
Driver not named	Erwin Special

Gas Price Is Boosted Throughout St. Louis

**Standard Raises Figure 1 Cent to 9.9
Cents and Independents Make Their
Price 11 Cents—Plan to Raise
Still Higher**

ST. LOUIS, September 17—Almost simultaneously with the announcement that independent dealers had complained to President Woodrow Wilson of alleged unfair tactics of the Standard Oil Co. of Indiana in its competition with smaller Missouri dealers, comes the announcement from the local branch of the Standard that Red Crown gasoline would sell in Missouri for 9.9 cents a gallon—an increase of 1 cent.

The independents had been waiting for this announcement ever since they raised the price of their No. 3 gasoline from 8.9 cents to 10 cents a gallon. It was the Standard's failure to fall in with the independent's increase that evoked the protest to President Wilson.

A few hours after the Standard's announcement the independents again raised the price of their product 1 cent, bringing the cost to the consumer to 11 cents a gallon, if bought at the filling stations. On the other hand, the price of the same grade of gasoline when bought from the independents' tank wagons was cut one-tenth of a cent, bringing it down to 9.9 cents.

A. P. Robinson, manager of the Standard Oil branch here, at the time of the independents' first raise said his company would ignore the independents. The independents now are waiting to meet their second boost in the price of gasoline and intimate that as soon as this happens the price of the independent product will go up again.

Speedway Presidents to Meet October 1

NEW YORK, Sept. 20—Nine presidents of speedways and dirt track courses throughout the country have been asked to attend a meeting in New York City October 1 to formulate a working agreement for the 1916 season. At the meeting, called by Chairman Kernerdel of the Contest Board of the American Automobile Assn., a schedule will be drafted so there will be no conflicting dates. The tracks that will be represented are: Chicago, Indianapolis, Sheepshead Bay, Minneapolis, Omaha, Sioux City, Des Moines, Providence and Tacoma.

J. M. Offices Moved to New York

NEW YORK, Sept. 20—The main office of the J. M. Shock Absorber Co., 210 South 17th street, Philadelphia, has been moved to 250 West 51st street, New York City.

Association News

GRAND RAPIDS CONVENTION

DETROIT, September 20—The convention of the Garage Owners Association of Michigan, which is to be held in Grand Rapids on October 7, will be in the Hotel Livingstone. Among the subjects which will be discussed are the following: "Necessity of Garage Organization," "Uniform Prices," "Associated Buying Power," "Running a Garage At a Profit."

The session will be opened at 9 a. m., when all of those who attend will be requested to register. At 10 a. m. the convention will be formally opened by President Glenn L. Orr, who will be followed by the Mayor of Grand Rapids in an address of welcome. Following a luncheon at the Livingstone Cafe at 12:30, the afternoon session will open with a meeting of committees and the board of directors at 1:30 and the convention will be reopened by the president at 2 o'clock.

Following completion of regular business matters, the meeting will be adjourned until January and the delegates will be entertained in an automobile drive around the city. At 6:30 there is to be a banquet at Pointe Polo, Reed's Lake, followed by addresses by Patrick O'Brien, Iron River, and President Robert Bland of the Associated Garages of America.

Following are the various committees which have been appointed for the convention:

Ladies' Entertainment Committee—Miss Mabel Allen, Grand Rapids; Mrs. G. R. Austin, Grand Rapids; Mrs. Frank Dean, Grand Rapids.

Publicity Committee—B. W. Olin, Grand Rapids; A. C. Neureither, Grand Rapids; and R. E. Harmon, Grand Rapids.

Finance Committee—G. R. Austin, Grand Rapids; C. F. Strong, Coldwater; E. R. Corbin, Grand Rapids; Robert Allen, Grand Rapids; L. F. Bertrau, Big Rapids.

EARLIER HARTFORD SHOW

HARTFORD, September 20—There is considerable discussion among members of the Hartford Automobile Dealers Association regarding an earlier show. The question of having the show in December has been agitated more or less. A meeting of the association is scheduled to be held shortly and at that time the show proposition will be introduced for general discussion. It is expected that the show can be held in the new state armory as last season, the stipulation in such case being that the First Infantry

of the Connecticut National Guard conduct the exhibition jointly with the dealers. The opponents of the early show appear to have experienced a change of heart of late. Car business with the 1916 models has started off unusually briskly with every indication of continuing until cold weather. Even now in the midst of the hottest spell of the year many orders have been booked for closed cars. Those who advocate the early show point out that closed car business would be vastly better. The exhibition, whatever the time selected for it, will be strictly local in its character, as in past seasons.

CALIFORNIA MARKET REPORT

SAN FRANCISCO, September 20—By way of assisting members in solving the used car problem, the Motor Car Dealers Association of San Francisco has commenced publication of a used car market report of its own which is patterned largely after the National Used Car Market Report published by the Chicago Automobile Trade Association, for which the San Francisco body subscribed. The association is also giving considerable attention to insurance in order to arrive at a better rate for its dealer members.

N. A. C. C. ON ANNOUNCEMENTS

NEW YORK, September 20—The committee of the National Automobile Chamber of Commerce, Inc., on a uniform time for announcing new models will probably meet in Detroit either on Tuesday, September 28, or Wednesday, September 29. The committee has collected a large amount of data from manufacturers and dealers and it is said that its verdict will be in favor of announcing new models some time after September in order not to disrupt the selling season. The committee, of which Hugh Chalmers is chairman, consists of C. W. Nash, Buick; Alvan Macauley, Packard; A. L. Riker, Locomobile; John N. Willys, Willys-Overland; C. C. Hanch, Studebaker, and W. C. Leland, Cadillac.

ZONE 9 USED CAR REPORT

CHICAGO, September 20—Following the publication of the revised edition of the pocket edition of the Chicago Automobile Trade Association's National Used Car Market Report, covering Zone 7, which centers in Chicago, an edition of the pocket book has been brought out for Zone 9, which centers in Minneapolis. This is in every respect the same as the pocket edition for Zone 97 except that it gives the appraised value

for Zone 9. This zone includes Montana, North Dakota, South Dakota, Minnesota, Wisconsin and part of Michigan.

Rocky Mountain Business Slow

DENVER, September 17—Sales in the Rocky Mountain territory are ahead of last year at this time, but many dealers declare that the general condition of the trade is quiet and considerably below what it ought to be. The blame is placed principally upon failure of the majority of manufacturers to supply cars fast enough to keep the trade in a healthy condition. General business conditions are only fair, but crops are good and the favorable reports on agriculture, stock-raising and mining, Colorado's leading industries, are favorable enough to justify the dealers in expecting better business, even at this season of the year. Dealers able to get cars feel that their orders are coming in too slowly, and believe that prospective buyers are holding back to see what develops in the trade in general.

St. Louis Show List Filling

ST. LOUIS, Sept. 21—The following is a complete list of exhibitors for the show which is to be held here October 3-10:

PLEASURE CARS

Brinkman Motor Car Co.	National
Briscoe Motor Sales Co.	Briscoe
Cartwright Motor Car Co.	Cartwright
Cole-Arbogast Automobile Co.	Cole-Arbogast
Colonial Motor Car Co.	Maxwell, Kissel
Case, J. I., T. M. Co.	Case
Cadillac A. Co. of St. Louis	Cadillac
Detroit Electric Car Co.	Detroit Electric
DeLuxe Automobile Co.	Oldsmobile, Metz
Dorris Motor Car Co.	Dorris
Franklin Auto & S. Co.	Franklin
Frye Motor Car Co.	Paige
Hudson-Phillips M. C. Co.	Hudson and Grant
Jefferson Motor Sales Co.	Jefferson
Kardell Motor Car Co.	Reo, Chevrolet
Locomobile Co. of Mo.	Locomobile
Lewis Automobile Co.	Marion, Chandler
Mound City Buggy & A. Co.	Jackson, Allen
Moon Motor Car Co.	Moon
More Automobile Co.	Marion
Newell Motor Car Co.	Haynes
Sperrang-Oakland A. Co.	Oakland
Park Automobile Co.	Chalmers, Saxon
St. Louis Stearns-Knight A. Co.	Stearns
Stevens-Waverley Auto Co.	Waverley Elec.
Tate-Gillham Motor Car Co.	Dodge
Trenton Motor Car Co.	Mercer
Velie Motor Co. of Mo.	Velie
Vesper-Buick Auto Co.	Buick
Von Arx Automobile Co.	Winton
Weber Motor Car Co.	Weber
Weber Imp. & Auto Co.	Mitchell, Hupmobile
Western Automobile Co.	Pierce-Arrow
White Co.	White
Woods Electric Vehicle Co.	Woods Electric
Donovan Auto Co.	Donovan
Ideal Motor Sales Co.	Pullman
Mogul Truck Sales Agency	Vulcan
Locust Motor Sales Co.	Scripps-Booth
Westcott Motor Sales Co.	Westcott
Motor Car Sales Co.	Peerless
Auto Exchange	Leach, Brouster & Co.
Stanley Motor Car Co.	Stanley
Meyer Motor Car Co.	Speedwell, Apperson

ACCESSORIES

Evertight Piston Ring Co.
U. S. Tool Co.
Auto Devices Co.
Gas Engine Efficiency Co.
McQuay-Norris Mfg. Co.
Panama Rubber & Equipment Co.
Famous & Barr Co.
O. K. Harry Steel Co.
L. H. Newman

COMMERCIAL VEHICLES

Igou Motor Co.	Studebaker
International Harvester Co.	I. H. C.
Chicago Pneumatic Tool Co.	Chicago Pneumatic Tool Co.
Capen Motor Car Co.	Garford
White Co.	White
Jeffery Motor Sales Co.	Jeffery

General Motors Profits Nearly Top \$20,000,000

**Annual Statement Shows Profit and
Loss Surplus for Year of \$19,985,159
—Common Stock Dividend of
\$50 a Share Declared**

NEW YORK, September 18—The directors of the General Motors Co., at their meeting concluded Thursday night, declared a dividend of 50 per cent in cash, being \$50 a share, on the \$16,506,783 in common stock, payable October 15 to shareholders of record on September 30.

The directors recommended the inauguration of regular quarterly common dividends, the rate to be determined by the incoming board. The regular semi-annual dividend of 3½ per cent has been declared on the preferred stock, payable November 1 to stockholders of record September 30.

During the 1915 fiscal year, which ended July 31, the General Motors Co. earned 81.2 on the common stock outstanding, compared with 37.6 per cent in 1914. The surplus available for the common stock amounted to \$13,408,839, compared with \$6,201,055 in the previous fiscal period, as is shown in the accompanying statement.

In view of the expiration of the voting trust on October 1, the following proxy committee was agreed upon for the annual meeting November 16: P. S. Dupont, W. C. Durant, L. G. Kaufman, C. W. Nash and J. J. Storrow, to vote for the following directors: Lamot Belin, director of the Aetna Explosives Co.; L. G. Kaufman, president of the Chatham & Phoenix National Bank; Pierre du Pont, S. F. Prior, of the Union Metallic Cartridge and Remington Arms Co.; A. H. Wiggin, C. H. Sabin, J. A. Haskell, A. G. Bishop, E. W. Clark, W. C. Durant, H. J. McClement, C. S. Mott, C. W. Nash, Thomas Neal, J. J. Roskob, Albert Strauss and J. J. Storrow.

The new board of General Motors will consist of seventeen against fourteen in the retiring board. Members of the old board who are serving on the new board follow:

E. W. Clark, J. H. McClement, Thomas Neal, C. S. Mott, C. W. Nash, J. J. Storrow, Albert Strauss, W. C. Durant.

New members of the board follow: Joseph Boyer, R. F. Herrick, E. D. Metcalf, M. J. Murphy, M. L. Tilney, Jacob Wertheim, Lamot Belin, L. G. Kaufman, Pierre du Pont, S. F. Prior, A. H. Wiggin, C. S. Sabin, J. A. Haskell, A. G. Bishop, J. J. Roskob.

The consolidated balance sheet of the company and subsidiary companies directly connected with the manufacture of automobiles and parts, as of July 31,

1915, is given in the table appended herewith.

Willard Develops New Separator

CLEVELAND, September 20—The Willard Storage Battery Co. has brought out a separator for storage battery plates which Mr. Willard has been working out for the past three years. It is of rubber composition, made porous by a patented process, and has the absorbent characteristics of wood without its frailty and short life. A set of the new rubber separators, which are used without other spacers, will last at least as long as the cell, the makers state. No change is made in the plate spacing. The first concern to use the separator is the Studebaker Corp.

Dart Adds Three New Trucks

WATERLOO, IA., September 20—At the recent annual meeting of the stockholders of the Dart Motor Truck Co., C. W. Hellen was elected president and general manager. Other officers elected were as follows: Vice-president and sales manager, W. A. Baxter; secretary, E. L. Stover; treasurer, C. C. Wolf. At the same time first details were made public

of three new models which the concern is bringing out. These include a small model of 750 pounds capacity, having a unit power plant with Disco electric lighting and starting, 30 x 3½-inch pneumatic tires on demountable rims and 106-inch wheelbase, and selling with express body for \$675; a ¾-ton, worm-driven model, using a 3½ x 5½-inch Buda unit power plant with 124-inch wheelbase and 36 x 3 front and 36 x 3½ rear solid tires, or 36 x 4 front and 36 x 4½ pneumatic tires, selling for \$1,300 for the chassis alone; a 2- to 2½-ton worm-driven model with a 4½ x 5½ unit power plant, 150-inch wheelbase, 36 x 4 front single and 36 x 4 dual rear tires, using steel wheels and listing at \$2,100.

Studebaker Adopts 8-Hour Day

DETROIT, September 17—Beginning November 1 the plants of the Studebaker Corp. will be operated on an 8-hour working schedule.

To Require Licensing All Drivers

NEW YORK, September 20—The next legislature will be asked to enact a law requiring that all automobile drivers be licensed after a qualifying examination.

FINANCIAL REPORT OF THE GENERAL MOTORS CO.

ASSETS			
	1915	1914	1913
*Real estate, plants, equipment.....	\$22,753,422	\$21,515,065	\$20,458,978
Pat., agreements, etc.....	413,500	471,200	1,508,672
Misc. invest.	367,184	352,735	367,063
Cash	14,526,124	13,452,663	6,236,251
Marketable securities	1,001,000	.....	.....
Notes on accts. rec.....	3,944,680	3,358,791	3,449,335
Inventories	14,049,298	11,642,370	18,170,907
Prep'd exp.	533,585	387,578	412,756
Good will	7,934,198	7,934,198	7,934,198
Total	\$65,522,991	\$59,114,600	\$58,538,160
LIABILITIES			
Preferred stock	\$14,985,200	\$14,985,200	\$14,985,200
Common stock	16,506,783	16,501,783	16,476,783
Funded debt	2,328,000	7,852,000	10,935,000
Outstanding capital stock.....	528,000	573,000	578,000
Sur. Sub. Cos.....	454,423	431,142	409,252
Accts. payable	1,380,907	3,772,123	4,821,744
Liab. acrd., not due.....	1,270,302	1,000,247	1,048,970
Notes payable .....	.....	.....	300,000
Res. for pfd. div.....	262,241	262,241	262,526
Res. for contingencies.....	7,821,976	7,047,436	5,775,305
Surplus	19,985,159	6,689,428	2,945,379
Total	\$65,522,991	\$59,114,600	\$58,538,160

*After deducting depreciation reserve of \$6,935,571 against \$6,082,149 in 1914 and \$3,613,029 in 1913.

	1915	1914	1913	1912
Net profit subsidiary companies....	\$14,926,322	\$7,947,412	\$8,284,140	\$4,838,449
General Motors Share.....	14,794,190	7,819,968	8,184,053	4,746,757
Interest on notes.....	336,387	570,235	724,581	850,463
Surplus	\$14,457,803	\$7,249,734	\$7,459,471	\$3,896,293
Preferred dividend	1,048,964	1,048,679	1,048,034	1,040,211
Surplus	\$13,408,839	\$6,201,055	\$6,410,937	\$2,856,088

PROFIT AND LOSS ACCOUNT

Profit and loss surplus July 31, 1914.....	\$6,689,427
Surplus for year ended July 31, 1915.....	13,408,839
Total	\$20,098,266
Plants and equipment.....	113,107
Profit and loss surplus July 15, 1915.....	\$19,985,159

Prominent Men of Trade Who Assume New Duties

**Resignations and Promotions That Serve
to Place Many Workers in New
Places—Few of Them Leave
the Industry**

Charles A. Gilbert has been made general sales manager of the Gibney Tire & Rubber Co., Philadelphia. Formerly he was Pacific Coast general sales manager for the United States Rubber Co.

S. W. Kesler, who recently resigned from the I. S. Remson Mfg. Co., Brooklyn, N. Y., Abbott-Detroit and Westcott dealer, to become affiliated with the Brooklyn branch of the Packard Motor Car Co., has been made manager of sales of a Brooklyn branch of the Kent Motors Co., newly formed to handle Abbott-Detroit cars in New York. His headquarters are at 1251 Bedford avenue, Brooklyn.

R. S. Hedtler has been made manager of the New Haven, Conn., branch of the Chevrolet Motor Co. Salesrooms have been established at 28 George street.

E. P. Chalfant has been made manager of the eastern sales division of the Anderson Electric Car Co. with headquarters in New York.

H. D. Palmer, formerly with the Globe Tire Co., Trenton, N. J., has been appointed district sales representative in New York state territory for the Knight Tire & Rubber Co. of N. Y., succeeding E. J. Coniff, resigned.

Walter G. Schmunk, brother of R. J. Schmunk, general sales manager of the Peerless Motor Car Co., Cleveland, has been made general sales manager for the Brown Auto Carriage Co., Cleveland.

Phil H. Wells has been appointed city sales manager of the Moon Motor Car Co.'s St. Louis branch, 2227 Locust street.

Ira S. Barnett has retired as president of the Kentucky Automobile Co., Cadillac dealer in Louisville, Ky. He has been succeeded by Hubert Levy, who will be assisted by Charles New, who will hold the offices of secretary and treasurer.

J. E. Grady has succeeded W. T. Bush as general sales manager of the Studebaker Corp. of Canada. Bush will devote his whole time to the retail sales department.

Frank J. Mooney, formerly sales and advertising manager of the Hupp Motor Car Co., has joined the Taylor-Critchfield-Clague Co., advertising agents, and will act as counsel in connection with automobile selling and copy plans.

R. H. Williams, manager of the Indianapolis branch of the Studebaker Corp. since January, has been appointed

manager of the Studebaker branch in Detroit, controlling the entire state of Michigan and the Detroit retail branch. He is succeeded by L. A. Tilley, special representative for the Studebaker corporation.

J. J. Sullivan, formerly of the Enger agency in the Chicago district, has been assigned to the Ottofy Motor Car Co., St. Louis, and he will assist that firm in establishing sub-dealers for the Enger line in the St. Louis district.

W. H. GRAY RESIGNS FROM GRAY & DAVIS

BOSTON, Sept. 21—W. H. Gray, general manager for Gray & Davis, has resigned from that company to take effect October 15. A rumor to the effect that Alexander Churchward also had resigned has been officially denied by officers of the company. The W. H. Gray who has resigned is not William Gray, president and treasurer of the company.

Gray & Davis has accepted a contract for war ammunition, and while the company does not subscribe to the policy of accepting orders for war munitions to the detriment of its other business interests, changes in manufacturing processes have released much machinery which will be used in executing a large order for high explosive shells. A large heat-treating plant has recently been erected, which adds to present facilities and this, with other improved manufacturing facilities and constructional alterations in its product, will permit of a considerably increased production of starting-lighting systems for the 1916 trade.

PACKARD RAISES PRICES

NEW YORK, Sept. 21—The Packard Motor Car Co., Detroit, has increased the prices of its two twelve-cylinder models by \$150 and \$200, respectively, for the I-25 and the I-35. The new price of all open models on the I-25 chassis is \$2,750 and on the I-35 chassis, \$3,150.

Norton Out of Case Company

RACINE, September 13—F. Lee Norton, vice-president and general manager of the J. I. Case T. M. Co., has resigned and will devote his time to the conduct of his large stock farm at Racine. Frederick Robinson, vice-president, resigned a short time ago. Norton was associated with the company 26 years and it is stated that he retains his financial interest.

Detroit Hyatt Distributing Center

DETROIT, September 18—The Hyatt Roller Bearing Co. has decided to make this city its distribution point and for that reason will soon start the erection of a large warehouse along the Michigan Central railroad. This means that outside of its manufacturing plants all its other departments will be located in the Wolverine manufacturing center.

Three Sixes, One Eight Form Pilot 1916 Line

**One Six and the Eight Are New and
Prices of Continued Models Are
Reduced—New Distribution
Policy Adopted**

RICHMOND, September 20—Two brand new models, a six and an eight, and two continued models, both sixes, form the 1916 line of the Pilot Motor Car Co.; the new cars are moderate in price and the carried over models have been reduced from \$200 to \$485 each. The line will be handled under a new sales system; the Pilot Car Sales Co., a separate organization, formerly handled all the Pilot sales, but this arrangement has been discontinued and the Pilot cars will be marketed direct by the manufacturers through branch houses and distributors. George E. Seidel, president and general manager, has assumed active management of affairs; Joseph W. Conner, formerly district sales manager of the Layman Buick Co., Cincinnati, has been appointed sales manager.

Of the two new models, the six, called the 6-45, will be built as a double-cowl five-passenger touring car and a four-passenger roadster at the same price, \$1,100; the 8-55 will be a more conventional five-passenger touring car or two-passenger roadster at \$1,785; the carried-over 6-75 will sell for \$2,485 as a seven-passenger touring and for \$2,400 as a two-passenger roadster or five-passenger touring; and the carried-over 6-55 will cost \$1,685 with two- or five-passenger body. The prices mean a reduction of \$400 on the 6-75 seven-passenger touring car and \$485 on the same model in two- or five-passenger form, and \$200 on the 6-55.

The new six is in the main just a smaller edition of the Pilot, though a change has been made in using an L-head motor instead of T-head as formerly. The power plant is a unit and the cylinder head is detachable. The wheelbase is 119 inches and tires are 32 x 4, rear tires being non-skids. The 8-55 has L-head cylinders 3 x 5½, cast in two blocks. The wheelbase is 126 inches.

Clifton F. Draper Passes Away

NEW YORK, September 20—Clifton F. Draper, who has represented the Champion Spark Plug Co., Toledo, O., in the south during the past year, died at his home in Brooklyn, N. Y., last week following an illness which necessitated an operation performed in Dallas, Tex. Mr. Draper previous to becoming identified with the Champion company, was affiliated with Stanley & Patterson, electrical supply dealers in New York.

Motor Car Dealers Recently Established

COMMERCIAL VEHICLES

Place	Car	Dealer
Birmingham	Republic	Cruze-Crawford Mfg. Co.

CALIFORNIA

San Francisco	Denby	Pacific Metal Products Co.
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CANADA

Ottawa, Ont.	Kelly	McDonald Bros.
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CONNECTICUT

Stamford	Koehler	N. J. Wadhian
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INDIANA

Evansville	Vim	C. W. Bowles
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Indianapolis	Vim	Indianapolis Auto Sales Co.
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KENTUCKY

Louisville	Vim	J. M. Andriot & Sons
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MASSACHUSETTS

Boston	Ward	D. C. Tiffany Co.
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New Bedford	Vim	Auto Selling & Supply Co.
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MICHIGAN

Saginaw	G. M. C.	M-T-Z Auto Co.
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MINNESOTA

St. Paul	Denby	Arend Bros.
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MISSOURI

St. Joseph	Vim	Howard Auto Co.
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St. Louis	Denby	Denby Missouri Co.
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NEW YORK

Albany	Vim	Black & White
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Utica	Vim	Beatty Motor Sales Co.
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OHIO

Cincinnati	Vim	Bessemer Motor Sales Co.
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Youngstown	Vim	W. H. Benson Co.
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PENNSYLVANIA

Ardmore	Vim	Keystone Garage
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Easton	Vim	Keystone Motor Corp.
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Harrisburg	Vim	Bentz-Landis Auto Co.
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Lancaster	Vim	S. A. Barley
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Pottstown	Vim	High & Trout
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TENNESSEE

Nashville	Vim	Imperial Motor Car Co.
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WASHINGTON

Spokane	Studebaker	A. H. Brown
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PLEASURE CARS

NEBRASKA

Alinsworth	Oakland	L. F. Corbitt
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Alliance	Cadillac	B. N. Henry
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Beemer	Oakland	C. J. Nellor
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Benkalan	Oakland	E. A. Mathews
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Bridgeport	Overland	C. C. Nelson
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Broken Bow	Oakland	Carthus & Brittan
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Burwell	Oakland	Meyers & Mansall
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Ceresco	Oakland	Anderson & Dahlstrom
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Clarkson	Oakland	Pokorney & Vrasper
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Curtis	Oakland	D. O. Nelson
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Dalton	Oakland	J. C. Franden
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Dunbar	Oakland	E. E. West
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Eustis	Oakland	Charles Uroele & Co.
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Fremont	Oakland	Electric Garage Co.
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Gibson	Oakland	Walker & Wallace
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Gordon	Oakland	A. E. Park
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Grant	Oakland	W. A. Westenburg
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Haigler	Oakland	M. M. Brumley
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Hampton	Oakland	Hampton Auto Co.
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Holbrook	Oakland	Henry Krause
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Hovells	Oakland	Mestl Brothers
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Julian	Oakland	S. A. Willberger
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Kenesaw	Oakland	Wm. Primm
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Kilgore	Oakland	J. H. Fisher
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Kimball	Overland	P. Maginnis
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Lincoln	Oakland	F. A. Roehl
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McCook	Oakland	M. M. Brumley
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McCook	Oakland	M. M. Brumley
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McCool Junction	Oakland	A. R. Marshall
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Minden	Oakland	J. A. Slater
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Mitchell	Paige	C. Schlect
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Nebraska City	Oakland	Grasmueck Bros.
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Norfolk	Oakland	Scott Auto Co.
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Orleans	Oakland	Liddeen Hardware Co.
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Ohio	Oakland	G. F. Spelde
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Osceola	Oakland	Meridian Garage
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Petersburg	Oakland	Nick Otelle & Son
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Plymouth	Oakland	Nispel & Metcalf
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Sargent	Oakland	R. A. George
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Scottsbluff	Overland	McCall & Harris
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Scribner	Oakland	Boll & Zeman
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Seneca	Oakland	Thomas McCawley
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Sidney	Overland	E. C. Stockdick
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Silver Creek	Oakland	Graham Bros.
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Stanton	Oakland	A. V. Johnston Auto Co.
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Stratton	Oakland	M. M. Brumley
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Talmage	Oakland	Charles Brehm, Jr.
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Thayer	Oakland	Aug. Heldbreder & Son
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Utica	Oakland	Aug. Heldbreder & Son
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Valentine	Oakland	H. W. Harper Auto Co.
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Wilsonville	Oakland	J. B. Andre
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PENNSYLVANIA

Okarcho	Hupmobile	E. C. Loosen
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Harrisburg	Westcott	Universal Motor Car Co.
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Nazareth	Abbott-Detroit	James Iteley
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Newcastle	Marwell	Jas P. Cope
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Philadelphia	Pathfinder	W. Stenlburg & Co.
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Reading	Oldsmobile	Oldsmobile Co. of Reading
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TENNESSEE

Place	Car	Dealer
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Knoxville	Westcott	F. A. Carpenter
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Knoxville	King	Harth Automobile Co.
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UTAH

Logan	King	King Motor Sales Co.
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WASHINGTON

Spokane	King	Cole Spokane Motor Co.
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WISCONSIN

Beloit	Dort	J. F. McKearn
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Washburn	Ford	T. H. Washburn
----------	------	----------------

Westville	Dort	Schauer Bros.
-----------	------	---------------

WYOMING

Haggs	White	Blackwell Bros.
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Casper	Oldsmobile	H. J. Blingenheimer
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Casper	Cadillac	C. L. Manbeck
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Casper	Overland	W. A. Smith
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Cheyenne	Hudson	W. E. Dimmeen
----------	--------	---------------

Douglas	Oldsmobile	J. D. Le Bar
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Encampment	Overland	E. H. Lenke
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Evanson	Oldsmobile	L. E. Reaney
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Glenbrook	Paige	Clifford Smith
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Hanna	White	G. H. Film
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Laramie	Hudson	W. H. Inman
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Lost Cabin	Dort	G. C. Stout
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Lusk	Overland	J. A. Agnew
------	----------	-------------

Medicine Bow	Saxon	W. F. Shields
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Medicine Bow	Dort	Scofield & Cal
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Pinedale	Oldsmobile	J. F. Patterson
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Rawlins	Hudson	Sundin & Runsey
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Rawlins	Overland	C. R. Watson
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Rawlins	Buick	Wyoming Supply Co.
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Rawlins	Dort	J. I. Cullen & Son
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Rawlins	Oakland	Murphy-Reedy Co.
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Riverton	Overland	H. C. Lawer Co.
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Rock Springs	Overland	L. Denden
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Sheridan	Hudson	T. C. Diers
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Shoshoni	Oldsmobile	Stuchell & Junce
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Thermopolis	Cadillac	C. Typer
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Wheatland	Paige	E. A. Tisch
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Motor Car Securities Quotations

No quotations for the corresponding date in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	Sept. 18, 1915	Bid	Asked
Ajax-Grieb Rubber Co., com.	300	..	..
Ajax-Grieb Rubber Co., pfd.	101	..	..
Aluminum Castings, pfd.	102	..	..
Chalmers Motor Co., com.	100	111	..
Chalmers Motor Co., pfd.	96	99	..
Firestone Tire & Rubber Co., com.	725	535	..
Firestone Tire & Rubber Co., pfd.	111	..	..
General Motors Co., com.	286	290	..
General Motors Co., pfd.	114	115	..
B. F. Goodrich Co., com.	65 1/2	67	..
B. F. Goodrich Co., pfd.	108	110	..
Goodyear Tire & Rubber Co., com.	285	300	..
Goodyear Tire & Rubber Co., pfd.	108 1/2	109 1/2	..
International Motor Co., com.	29	31	..
International Motor Co., pfd.	61	65	..
Kelly-Springfield Tire Co., com.	210	213	..
Kelly-Springfield Tire Co., 1st pfd.	88	90	..
Kelly-Springfield Tire Co., 2nd pfd.	208	220	..
Maxwell Motor Co., com.	45 1/2	47	..
Maxwell Motor Co., 1st pfd.	89	90	..
Maxwell Motor Co., 2nd pfd.	37	38 1/2	..
Miller Rubber Co., com.	190	195	..
Miller Rubber Co., pfd.	107	109	..
Packard Motor Car Co., com.	120	130	..
Packard Motor Car Co., pfd.	100	..	..
Paige-Detroit Motor Co.	450	..	..
Peerless Motor Car Co., com.	120	135	..
Peerless Motor Car Co., pfd.	83	94	..
Portage Rubber Co., com.	55	59	..
Portage Rubber Co., pfd.	93	94	..
*Reo Motor Truck Co.	17 1/2	..	..
*Reo Motor Car Co.	33	34	..
Stewart-Warner Speed. Corp., com.	66 1/2	67 1/2	..
Stewart-Warner Speed. Corp., pfd.	105	107	..
Studebaker Corp., com.	128 1/2	130	..
Studebaker Corp., pfd.	106	107	..
Swinehart Tire & Rubber Co.	86	90	..
U. S. Rubber Co., com.	51 1/2	53	..
U. S. Rubber Co., 1st pfd.	104	106	..
White Co., pfd.	110	112	..
Willis-Overland Co., com.	192	194	..
Willis-Overland Co., pfd.	105 1/2	106	..

*Par value \$10; all others par value \$100.

Coming Events

*Indicates sanction by A. A. A.

- Sept. 20-25.....San Francisco, Cal., International Engineering Congress.
- Sept. 25.....Chicago, Ill., "Get-together" meeting, Chicago Garage Owners' Assn.
- Oct. 1-2.....Trenton, N. J., Track meet, Inter-State Fair.
- Oct. 2.....Fresno, Cal.—100-mile track race; Fresno Agricultural Association.
- Oct. 2.....New York—Speedway racemeet, Sheephead Bay Speedway Corp.
- Oct. 4, 5 and 6.....Columbus, O.—State convention; Columbus Garage Owners' Association.
- October 7.....Grand Rapids, Mich., Convention of the Garage Owners' Association of Michigan.
- Oct. 8-9.....Peoria, Ill., Convention of Garage Owners' Assn. of Ill.
- Oct. 9.....Indianapolis, Ind.—100-mile Invitation Race, Motor Speedway.
- Oct. 16.....Chicago—Speedway racemeet, Speedway Park Association.
- Oct. 18-19.....Cleveland, O.; Hotel Statler; Sixth Annual Convention, Electric Vehicle Assn. of America.
- Oct. 20-22.....Excelsior Springs, Mo., quarterly meeting National Assn. of Automobile Accessory Jobbers.
- Nov. 20.....Phoenix, Ariz., 150-mile track meet.

THE SHOW CIRCUIT

- Sept. 18-25.....Los Angeles, Cal.; Broadway Automobile and Flower show, Automobile Dealers Assn.
- Sept. 22-25.....Reading, Pa., show, Hotel Berkshire.
- Sept. 27-Oct. 10.....Denver, Col.; show, International Soil Products Exposition, Automobile Trades Assn. of Colorado.
- Oct.Dallas, Tex.; show, Dallas Automobile Dealers Assn.

- Oct. 2-9.....Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.
- Oct. 3-9.....Kalamazoo, Mich., Prosperity Week, Kalamazoo Auto Dealers Assn.
- Oct. 4-9.....St. Louis, Mo., ninth annual show, St. Louis Automobile Manufacturers' and Dealers' Assn.
- Oct. 4-14.....Wichita, Kan., show, Wichita Auto Dealers' Assn.
- Oct. 6-16.....New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
- Nov. 12-20.....Providence, R. I., Show, State Armory, Rhode Island Automobile Dealers Assn., Inc.
- Oct. 16-23.....Pittsburgh, Pa., Eleventh annual show, Motor Square Garden, Automobile Dealers Assn. of Pittsburgh.
- Oct. 17-18.....San Diego, Cal., Show at Exposition.
- Oct. 18-25.....Troy, N. Y., show, Armory; Troy Automobile Dealers' Assn.
- Nov. 1-3.....Pasadena, Cal.; show; Hotel Green, Walter Hempel.
- Dec. 31-Jan. 8...New York, N. Y., Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
- Jan. 8-15.....Philadelphia, Pa., show, Philadelphia Automobile Trade Assn.
- January 22-29...Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
- Jan. 29-Feb. 5....Minneapolis Winter Show; Minneapolis Automobile Trade Assn., National Guard Armory.
- Feb. 15-20.....Omaha, Neb., 10th annual show, Omaha Automobile Show Assn.
- March 4-11.....Boston, Mass.—Fourteenth Annual Show; Boston Automobile Dealers Assn.; Boston Commercial Vehicle Assn.
- Sept. 21-24.....Cleveland, O.—Convention, Carriage Builders National Assn.

MOTOR WORLD

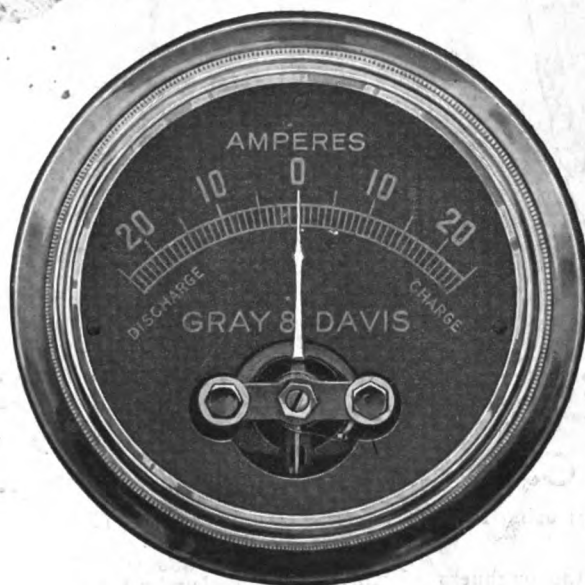
THE DEALERS' NATIONAL WEEKLY

Volume XLIV
No. 13

New York, September 29, 1915

Ten cents a copy
Two dollars a year

GRAY & DAVIS AMMETER



Actual Size. Price \$3.50

PRE-EMINENTLY the handsomest and most accurate Ammeter on the market. Moving coil type. Large, readable figures. Provided with adjustment feature. Will withstand heavy overcharge. Full nickel, gun-metal dial, registering 20 amperes "charge" or "discharge." Absolutely essential if you desire to know the *exact* condition of your electric system.

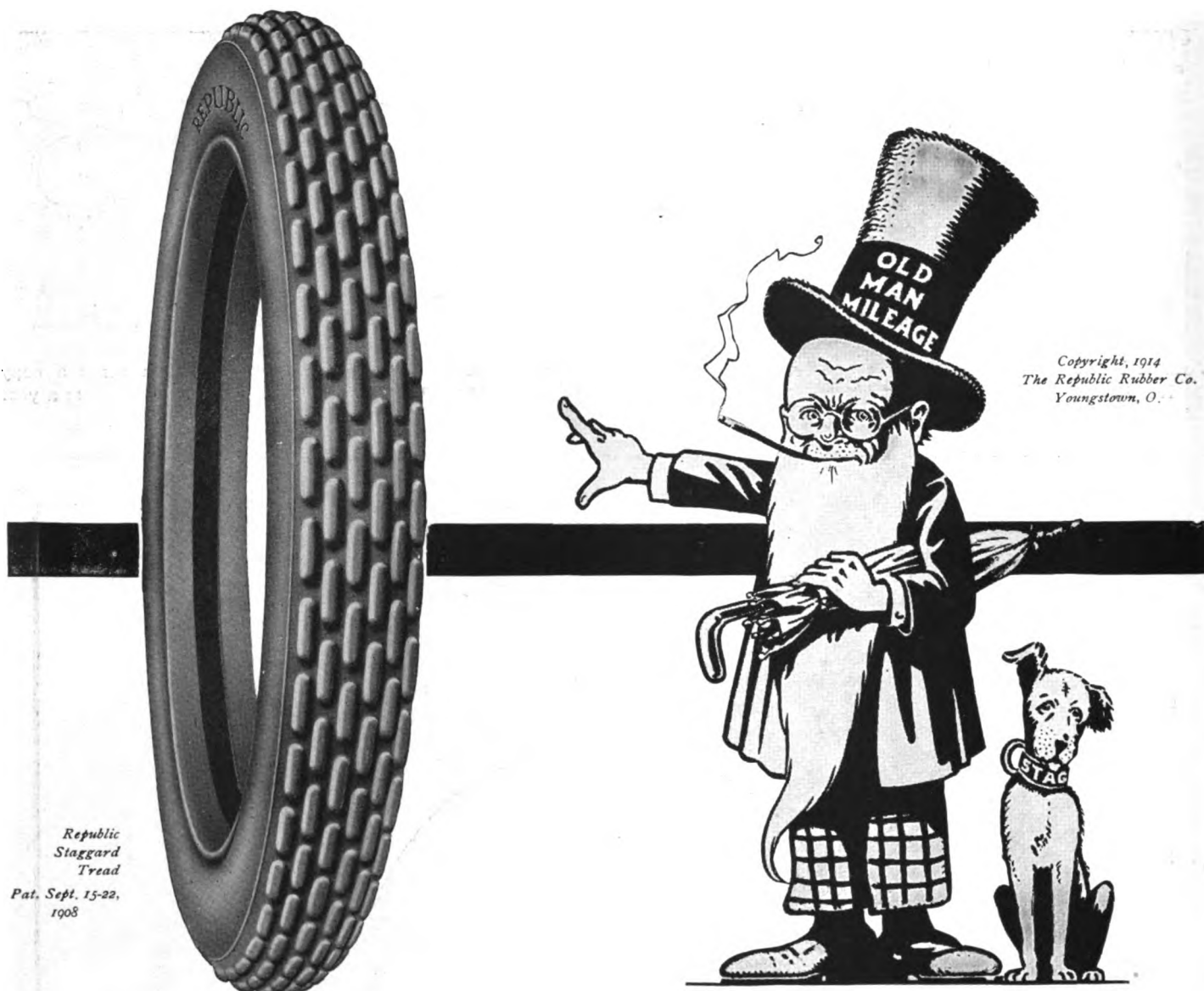
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DEALERS

We are selling this instrument as fast as we can ship them. Write for particulars.

GRAY & DAVIS, Inc.,

BOSTON, MASS.



“This tire puts an end to experimenting” —Says Old Man Mileage

“When your customers start using Republics their tire experimenting is over.

“Quality of material and thoroughness of workmanship build into Republics the honest service and

mileage that makes every Republic user a Republic Booster.

“That’s why Republics always bring them back. That’s why Republics are business builders, not mere one-time-sale makers.”

Write for our dealers’ proposition

THE REPUBLIC RUBBER CO.
YOUNGSTOWN, OHIO

Branches and Agencies in the Principal Cities

REPUBLIC TIRES

STAGGARD PLAIN, AND “WM” TREADS

TRADE MARK REGISTERED
U. S. PATENT OFFICE



**Seven-Passenger
Forty Horse Power
FOUR—\$885**

**Seven-Passenger
Fifty Horse Power
SIX—\$1050**

Shipping Studebakers at the rate of 75,000 a year!

We only figured on sixty thousand cars for 1916, you know.

Never before in Studebaker's history as manufacturers of cars has there been such a season as this, and this has been the **GREATEST** selling season that Studebaker Dealers have ever known.

Today we are shipping cars at the rate of 75,000 a year. And even with this enormously increased production, Studebaker is not yet up to its orders.

But the facilities at Detroit and South Bend are being increased almost daily. Week after week, shipments are being increased, and deliveries made more rapidly.

With these **GREATLY** increased facilities that Studebaker now has, and the unrivaled **VALUES** offered in the 1916 models, Studebaker Dealers have the most remarkable business-building opportunity ever offered in the industry.

Merchants are dropping other lines of business to become Studebaker Dealers, so attractive is the opportunity we offer.

More than 4,000 Dealers now handling the Studebaker Line are making money. And the **SAME** opportunity is offered to any man who can measure up to Studebaker's ideals of a successful Dealer.

Write at once for complete details

Four-Cylinder Models

Touring Car, 7-passenger - \$885
Roadster, 3-passenger - 850
Landau-Roadster, 3-pass. - 1185

Commercial Cars

Panel Delivery Car - - - \$875
Open Express Car - - - 850
Station Wagon - - - - 875

Six-Cylinder Models

Touring Car, 7-passenger - \$1050
Roadster, 3-passenger - 1000
Landau-Roadster, 3-pass. - 1350
Coupe, 4-passenger - - - 1550
Limousine, 7-passenger - 2250
F. O. B. Detroit

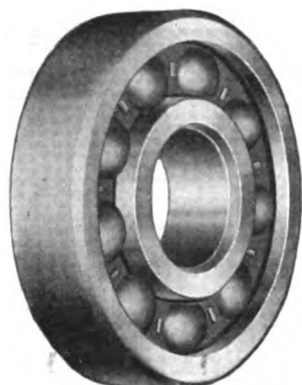
STUDEBAKER

South Bend, Ind.

Walkerville, Ont.

Detroit, Mich.

Address all correspondence to Detroit



Exterior View
New Departure Single Row

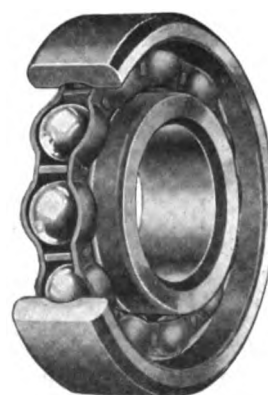
In the Motor— Transmission— Differential—Axles—

wherever parts move in
relation to others that are stationary

- - there **NEW DEPARTURE
BALL BEARINGS**

American Made for American Trade

the Chrome Alloy Steel Bearing of precision, quality and endurance, should be employed to keep these parts in line and free them from the inevitable destruction due to friction.



Part Sectional View
New Departure Single Row

Catalog
gladly
sent
on
request

The New Departure Mfg. Co.

—Bristol, Conn., U. S. A.—

Conrad Patent Licensee

Distributors in Trade Centers Throughout the United States.—Sole British Agents, Brown Brothers, Ltd., London & Manchester.—For the Continent of Europe, Jacob Holst, Copenhagen, Freeport, Denmark.

Western Branch, 1016-17 Ford Building, Detroit.

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New type with ball bearing worm developed.

THE SATURDAY EVENING POST

The 1916 SIX - \$1145

WITH our production capacity increased to 600 cars per day we are in a position to offer the 1916 Overland Six at the remarkably low price of \$1145. You will, we believe, find that this car is considerably under the market price of other Sixes having equal or similar specifications.

GRASP the full significance of its size as denoted by wheel-base—seating capacity—tires; of its generous, efficient power equipment; of its superior ignition; of its comfort and convenience; of its beautiful lines. Then realize that the Overland for these extremes of luxury is only

The Willys-Overland Company
Toledo, Ohio

These Silent Salesmen Help Overland Dealers

EVERYONE sees Overland advertisements. No one escapes the force of their appeal.

General magazines, women's publications, the big city dailies, farm papers, trade journals—all carry the Overland message to millions of readers.

Every county in the United States—every county in every Canadian province—has its readers of Overland advertising.

Over 50,000,000 Overland advertisements appear each month—more than two for each of the 20,000,000 American families.

Such widespread publicity means increased prestige for Overland dealers—and increased sales.

The Willys-Overland Company
Made in U. S. A.
Toledo, Ohio

When writing advertisers please mention Motor World

MOTOR WORLD

Vol. XLIV

New York, U. S. A., Wednesday, September 29, 1915

No. 13

Personality Plus a Complete Stock

Two Factors Which Have Brought Business of \$65,000 a Year in Town of 12,000—
Petry Makes a Friend of Every Customer



There is nothing out of the ordinary in the appearance of Petry's place of business in Hudson, N. Y. The outstanding feature is Petry's personality; he makes friends with everyone and it pays. The insert shows Wm. Petry as his customers know him best

OF every four dollars spent for motor cars and motor car accessories in the city of Hudson, N. Y., at least three roll into William Petry's till. Petry sold \$65,000 worth of accessories and supplies during the past year; yet the population of the town is but 12,000 and his stock inventories at but \$14,000.

Petry turns this stock at least five times a year. He does more business than all the other garages and dealers in his town. Sixty-five thousand dollars worth last year! Think of the magnitude of this business in proportion to the size

of the town! A New York dealer doing proportionately as much business would do \$25,000,000 worth a year!

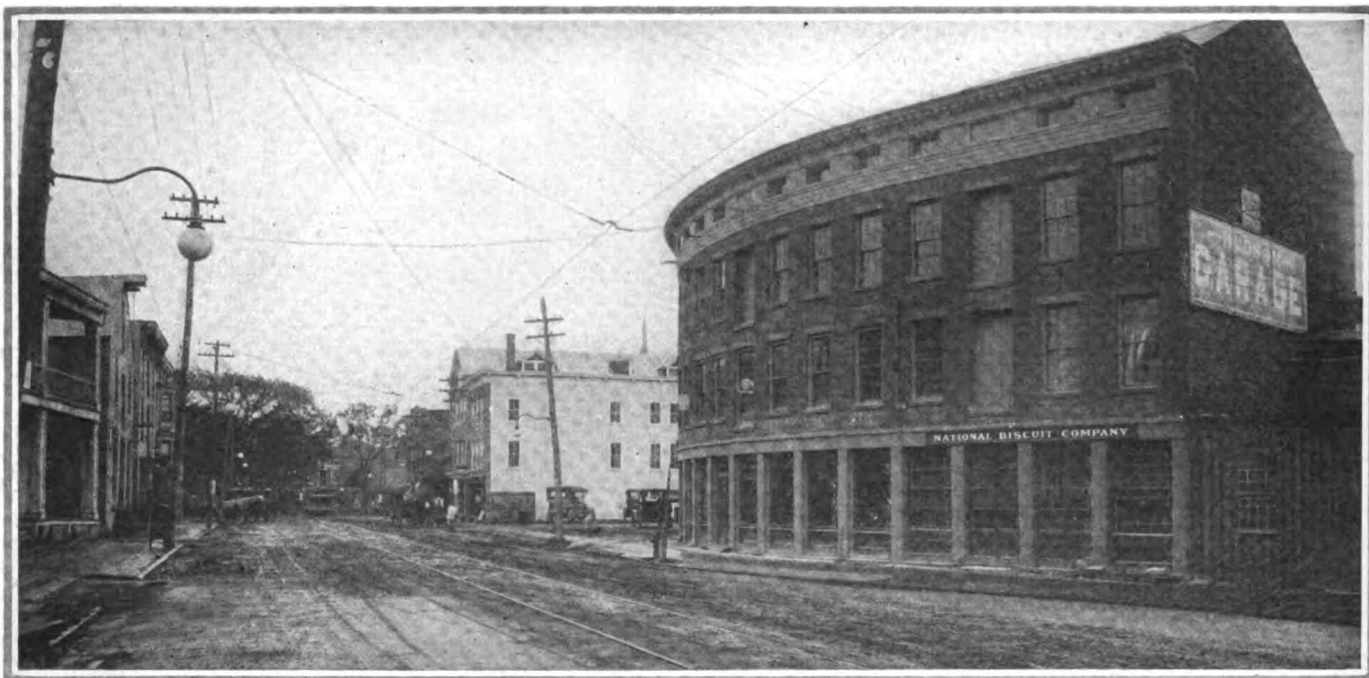
Petry is successful; of that there can be no doubt. And the reason for his success is as simple as it is interesting. It is merely that Petry treats each customer so well that he continues to be a customer and to trade at his garage as long as he is within reach of it.

That is the secret, nothing more. No radical ideas were used in building up this trade and no unusual scheme of advertising was employed, no reduction in prices was offered as a bait, but the bus-

iness is simply a steady growth of years without the smallest slump at any time.

Incidentally, Petry has always sold accessories—ever since he started in the garage business in 1900. It was second nature to him, because before entering the garage business he sold and repaired bicycles and selling sundries was an important part of this business.

The particular feature about Petry's business that leaves a lasting impression is his personality. Petry is not only business head of the organization, but heart and soul, as well. There is nothing mechanical about the way the bus-



Petry is located on the main artery of travel and on the main street of Hudson. The State road curves in at the beginning of his salesroom where the garage sign appears and curves out again at the far left corner of the picture. Motorists must go slowly past his door.

ness is conducted; it has not the precision of a machine; it is not an automaton, but a real, living thing. Petry's big job is to keep the business human. He stands between the exacting customer and the careless employee; he smooths out all difficulties and keeps everybody in good humor. His motto is, "Molasses catches more flies than vinegar."

Common sense, alertness and close attention to details are his personal assets. On the one hand he watches his stock to see that the customers have everything they want, and on the other he watches his employees to see that no detail is overlooked to hold the trade.

Petry's success is founded on four rules:

- 1—Fair prices and a reasonable profit.
- 2—One price to all.
- 3—A complete stock.
- 4—Personal attention to all details of the business.

The first two hardly require any comment, but it might be well to add that there is never any deviation from them. The first rule gains many customers, and the second one holds them.

Ordered Tire by Wire

The important rules, however, are the third and fourth. Petry has always aimed to have a complete stock, to have the little things that the average fellow has not, so that when a customer comes for something that he cannot get elsewhere he soon comes back for more, and thus develops into a permanent customer.

Should a certain line of goods become exhausted through an oversight of the stock man, Petry does not wait to write for more, but telegraphs. The cost is

a secondary consideration—the important point is, to have what the customer wants when he wants it. He feels that it is better to spend money telegraphing than to run the risk of losing a customer by telling him that he is all sold out but expects some more the first of the week.

For example, the other night a man dropped in to buy a certain make of tire. Petry, through an accident, had none on hand. He telegraphed and had one for the man in the morning before he started on a trip to Albany. If it had not been for his quick action this man would probably have purchased his tire in Albany.

Looks Easy But Isn't

Petry also keeps alert for new things with money-making possibilities. For instance, he bought three delivery bodies for Fords early last spring just to see how they would go, and they sold so quickly that he bought a carload, and since then he has bought two more.

In the same way he tried out a few sets of demountable rims for Fords, and they sold with such ease that he bought a carload and these are nearly all sold.

While it sounds easy to treat each customer so well that he never changes his allegiance, it is not easy. And this is where so many garages fail. Many who have read this have already said, "Why, I do this, and so does my neighbor, and we are both in the rut!" But William Petry has succeeded with his policy because he sticks close to his garage and sees to it that every customer receives that fair treatment that makes him come back and has made William Petry famous throughout this territory.

He does not depend on an employee to rectify a mistake; he does this himself.

He puts as little responsibility on his employees as possible and he is continually on the lookout for misunderstandings between customer and employee or evidences of neglect by the employee. These are the great enemies of his policy and it is only by keeping a careful watch that many customers are not lost in these two ways. Misunderstandings will occur in any business, and it is up to William Petry to ferret these out and make them right. It requires deep personal interest to do this successfully and for this reason he states that when this work is left to an employee it is likely to fail.

Neglect or carelessness on the part of an employee is something that the employee will try to cover up even if it means the loss of the customer, and therefore he keeps a sharp lookout.

System Not Everything

He believes that most garages are too much like a machine, the large ones especially; they are run according to a system and the real head of the business, who is vitally interested in its success, is generally sufficiently removed so that he does not know what is going on. The business system is supposed to check the employees' honesty; it does, but it does not show whether each customer has received courteous treatment; whether he has been served to the best of the employee's ability; whether he has received the service he had a right to; whether the misunderstanding regarding that tire adjustment was properly straightened out, and so on indefinitely.

(Continued on page 8)

The Stock With Which Petry Does \$65,000 Business a Year

No.		Each	Total	No.		Each	Total
50	ideal Perfection pump	\$1.50	\$45.00	12	accelerators for Fords	1.00	12.00
12	jacks	1.50	18.00	36	Schrader's tire testers	1.00	36.00
12	jacks	1.75	21.00	144	horn reeds	.25	36.00
12	jacks	2.75	33.00	25	Ford oil gages	.20	5.00
12	jacks for Fords	1.00	12.00	6	Ford connecting rod wrenches	.40	2.40
12	pressed steel jacks	1.00	12.00	6	combination wrenches	.40	2.40
18	sets (four) Cox Ford shock absorbers, per set	8.00	144.00	6	demountable rim wrenches	1.00	6.00
12	sets (four) K-W Ford shock absorbers, per set	15.00	180.00	3	ratchet rim wrenches	1.25	3.75
6	pairs Cox shock absorbers, per pair	10.00	60.00	12	Ford transmission band wrenches	.15	1.80
12	(2½ to 5-in.) blow-out patches	.45 to .75	35.00	12	Ford transmission band wrenches	.20	2.40
60	each Ideal inner sleeve (3, 3½, 4, 4½, 5 in.)	4.75	275.00	3	Continental split rim tools	1.00	3.00
2	doz. 2 lb. tins carbide	.25	6.00	3	Weed chain pliers	.75	2.25
20	5-lb. tins carbide	.60	12.00	6	valve stem adjusters	.30	1.80
12	10-lb. tins carbide	1.00	12.00	6	gas valves for Fords	1.00	6.00
50	3-in. inside patches	.30	15.00	12	rubber repair outfits	.40	4.80
50	3½-in. inside patches	.40	20.00	25	cans Goodyear repair gum	.30	7.50
12	4-in. inside patches	.50	6.00	2	carbon scrapers	1.00	2.00
12	lace-on boots	.70	8.40	2	sets bearing scrapers	1.00	2.00
12	lace-on boots	.90	10.80	25	oil and grease guns	.55	13.75
3	30 x 3¼ reliners	2.60	7.80	3	grease guns	2.00	6.00
3	32 x 3¼ reliners	2.95	8.85	25	pair license brackets	.20	5.00
3	34 x 4 reliners	3.15	9.45	12	pliers	.25	3.00
3	36 x 4 reliners	3.60	10.80	24	gasoline measuring sticks	.15	3.60
25	flat headlight glasses (7¼ to 9 in.)	.25	6.25	50	Ford front license plate holders	.35	17.50
25	concave headlight glasses	.60	15.00	12	wrenches	.70	8.40
48	pts. Blue Ribbon polish	.25	12.00	6	Ford valve grinding tools	.30 and .40	2.00
48	qts. Blue Ribbon polish	.50	24.00	12	valve spring lifters	.50	6.00
12	gal. Blue Ribbon polish	1.00	12.00	6	valve spring lifters	1.00	6.00
48	pts. brand No. 2	.25	12.00	25	number bracket holders	.50 and .60	13.00
48	qts. brand No. 2	.50	24.00	25	robe rails	.60	15.00
12	gal. brand No. 2	1.00	12.00	4	robe rails	1.50	6.00
24	5-lb. cans of soap	1.00	24.00	4	foot rails	1.00	4.00
12	10-lb. cans of soap	2.75	33.00	6	barrels batteries	30.00	180.00
6	25-lb. cans of soap	7.00	42.00	216	electric bulbs, assorted	.20	43.20
1	barrel of soap	Per lb.	150.00	6	electric outfits for Fords	2.50	15.00
12	tire irons	.15	2.40	100	ft. pump hose	.12	12.00
4	tire irons	.50	2.00	100	ft. press stove tubing	.10	10.00
6	top dressing, quart	.75	4.50		*50 sheets celluloid		
6	top dressing, pint	.85	5.10				
3	top dressing, quart	1.50	4.50				
12	qts. varnish renovator	1.00	12.00				
12	gal. varnish renovator	3.00	36.00				
12	cans gasket cement	.25	3.00				
6	5-in. reflectors	.90	5.40				
6	6-in. reflectors	1.00	6.00				
6	7-in. reflectors	1.40	8.40				
6	8-in. reflectors	2.00	12.00				
12	rear view mirrors	1.00	12.00				
3	rear view mirrors	2.25	6.75				
6	Weed chain adjusters, per pair	1.00	6.00				
6	Pyrene fire extinguishers	7.00	42.00				
6	Pyrene fire extinguishers with brackets	7.50	45.00				
6	oil cans	.20	1.20				
6	oil cans	.25	1.50				
6	oil cans	.30	1.80				
3	cans tire new	.75	2.25				
3	cans brass coat	.50	1.50				
3	cans brass coat	.75	2.25				
6	pint cans radiator enamel	.50	3.00				
6	cans fuller's earth compound	.25	1.50				
6	cans neatfoot oil	.25	1.50				
6	cans Magic decarbonizer	.75	3.00				
24	Eureka valve grinding compound	.35	8.40				
24	Clover valve grinding compound	.35	8.40				
3	Eureka large can grinding compound	1.00	3.00				
3	Clover large can grinding compound	1.00	3.00				
12	tubes prussion blue	.15	1.80				
24	radiator compound	.60	13.40				
50	cans Goodyear patches	.35	17.50				
25	cans Paraflex	.35	8.75				
50	cans self curing patches	.35	17.50				
24	cans rubber cement	.20	4.80				
12	half pints rubber cement	.30	3.60				
24	cans tube cement	.10	2.40				
12	cans tube cement	.05	.60				
12	cans vulcanizing cement	.20	2.40				
6	Shaler vulcanizing kits	2.00	12.00				
6	combination vulcanizing kits	3.50	21.00				
6	Adamson vulcanizers	1.75	10.30				
6	Adamson vulcanizers	1.00	6.00				
12	lbs. Goodyear repairing rubber, 4 weights	1.60 to 2.00	100.00				
50	rolls repair tape	.05	2.50				
50	rolls repair tape	.15	7.50				
50	rolls repair tape	.25	12.50				
12	boxes assorted nuts	.20	2.40				
25	boxes assorted nuts	.12	3.00				
25	cut-outs	1.00 to 2.50	40.00				
25	Ford cut-outs	1.00	25.00				
6	quart cans Pyrene	1.00	6.00				
6	collapsible chairs	1.35	8.10				
12	horn bulbs	.70	8.40				
12	horn bulbs	.80	9.60				
12	horn bulbs	.85	10.20				
24	battery syringes	.80	19.20				
24	rubber bumpers	.80 to 1.75	30.00				
12	single switches	.25	3.00				
6	two gang switches	.75	3.00				
6	three gang switches	1.00	6.00				
12	horn push buttons	.25	3.00				
12	horn push buttons	.40	4.80				
6	dash lamps, assorted	.85	5.10				
12	clocks for Fords	2.00	24.00				
12	clocks	3.25	39.00				
12	clocks	5.75 to 6.25	72.00				
6	electric cigar lighters	1.00	6.00				
12	Ford anti-rattlers	.25	3.00				
12	Ford anti-rattlers	.35	4.20				
12	Ford anti-rattlers	.90	10.80				
12	Ford wheel pullers	.40	4.80				
12	accelerators for Fords	1.00	12.00				
36	Schrader's tire testers	1.00	36.00				
144	horn reeds	.25	36.00				
25	Ford oil gages	.20	5.00				
6	Ford connecting rod wrenches	.40	2.40				
6	combination wrenches	.40	2.40				
6	demountable rim wrenches	1.00	6.00				
3	ratchet rim wrenches	1.25	3.75				
12	Ford transmission band wrenches	.15	1.80				
12	Ford transmission band wrenches	.20	2.40				
3	Continental split rim tools	1.00	3.00				
3	Weed chain pliers	.75	2.25				
6	valve stem adjusters	.30	1.80				
6	gas valves for Fords	1.00	6.00				
12	rubber repair outfits	.40	4.80				
25	cans Goodyear repair gum	.30	7.50				
2	carbon scrapers	1.00	2.00				
2	sets bearing scrapers	1.00	2.00				
25	oil and grease guns	.55	13.75				
3	grease guns	2.00	6.00				
25	pair license brackets	.20	5.00				
12	pliers	.25	3.00				
24	gasoline measuring sticks	.15	3.60				
50	Ford front license plate holders	.35	17.50				
12	wrenches	.70	8.40				
6	Ford valve grinding tools	.30 and .40	2.00				
12	valve spring lifters	.50	6.00				
6	valve spring lifters	1.00	6.00				
25	number bracket holders	.50 and .60	13.00				
25	robe rails	.60	15.00				
4	robe rails	1.50	6.00				
4	foot rails	1.00	4.00				
6	barrels batteries	30.00	180.00				
216	electric bulbs, assorted	.20	43.20				
6	electric outfits for Fords	2.50	15.00				
100	ft. pump hose	.12	12.00				
100	ft. press stove tubing	.10	10.00				
	*50 sheets celluloid						
				*Note—These sheets are cut as follows to avoid waste: 28 x 12, 20 x 12, 20 x 24, 20 x 26, 20 x 50, and the prices are .35, .60, .85 and \$1.10 respectively.			
144	rubber lamp connectors	.15	21.60				
288	spark plugs	.50	24.40				
†50	spark plugs	1.00	50.00				
†100	spark plugs	1.00	100.00				
†50	spark plugs	.75	37.50				
†100	spark plugs	.75	75.00				
†36	spark plugs	1.00	36.00				
				†Note—These are different makes.			
12	spark plug porcelains	.35	3.90				
288	battery connectors	.02½	6.50				
144	battery connectors	.05	7.20				
50	terminals	.03	1.50				
50	terminals	.04	2.00				
50	terminals	.05	2.50				
				Assorted lamp parts			
12	side lamps	2.25	27.00				
12	tail lamps	2.00	24.00				
1	Ford headlamp	6.00	6.00				
2	large headlamps	9.00	18.00				
3	gas lamps	5.00	15.00				
4	gas lamps	8.00	32.00				
75	tire covers 28 x 3 to 38 x 5½	1.00 to 2.75	150.00				
150	sets Weed chains	2.40 to 14.00	900.00				
50	Weed links in each size	.05 to .15	5.00				
75	Presto tanks	13.50 to 5.50	750.00				
25	Searchlights	18.00	450.00				
12	tire irons for Fords (running board)	2.00	24.00				
50	tire irons for Fords (rear)	3.00	150.00				
288	goggles	.25 to 2.00	150.00				
72	gloves	1.00 to 4.00	150.00				
200	5-gal. cans oil	2.50	500.00				
288	gal. cans oil	.75	216.00				
25	handy packages of oil	.25	6.25				
25	handy packages of oil	.50	12.50				
50	5-lb. cans grease	.75	37.50				
25	5-lb. cans grease	.90	22.50				
25	5-lb. cans grease	1.00	25.00				
12	2-lb. cans graphite	.50	6.00				
12	5-lb. cans graphite	1.50	18.00				
12	10-lb. cans graphite	2.50	30.00				
248	tire casings all sizes	25.00	6,000.00				
250	tubes, all sizes	5.00	1,250.00				
6	cans Johnson's prepared wax	.25	1.50				
12	cans Rinkote	.50	6.00				
12	top patches	.25	3.00				
6	cans dry polish	.25	1.50				
100	acetylene burners, ½, ¾, ¾-in.	.25	25.00				
24	ammeters	.85	20.40				
24	volt ammeters	1.00	24.00				
432	Schrader valves	.05	22.60				
3	spark plug pumps	7.00	21.00				
12	master vibrators for Fords	5.50	66.00				
24	Klaxon hand horns	4.00	96.00				
3	Klaxon electric horns	9.00	27.00				
12	Sparton hand horns	4.00	48.00				
3	Sparton hand horns	7.00	21.00				
1	Sparton electric horn	8.00	8.00				
2	Sparton electric horns	9.00	18.00				
2	Klaxon electric horns	15.00	30.00				
6	trouble lamps	1.25	7.50				
6	trouble lamps	1.75	10.50				
12	Blue Books	2.50	30.00				
25	cut-out pedals	.40 to .50	10.00				
Total				\$14,530.25			

Personality Plus a Complete Stock

(Continued from page 6)

These things no system can show. They can only be determined by rubbing shoulders with the employes and keeping in closest touch with all branches of the business. When a customer has a complaint to make he should be able to reach the head of the firm.

To illustrate the importance of this point, Petry recalled an incident that happened in a neighboring town. A man bought a starter and after using it a short time some trouble developed. He went to the salesman and got no satisfaction; neither could he get satisfactory treatment from the foreman of the repairshop; he had confidence in the fairness of the proprietor, however, and so asked to see him, but the salesman said he was out. The owner called several times and each time he was told that the proprietor was out.

This story illustrates two important points in Petry's method of running a garage business. This man was so far removed from his business that he actually did not know what was going on in salesroom and shop, and his office was inaccessible, so that the customer could not tell whether he was in or not, although he probably was. Petry's office is accessible and if he is in it the door is open, but generally he is to be found somewhere around the garage.

Customer Saw a Light

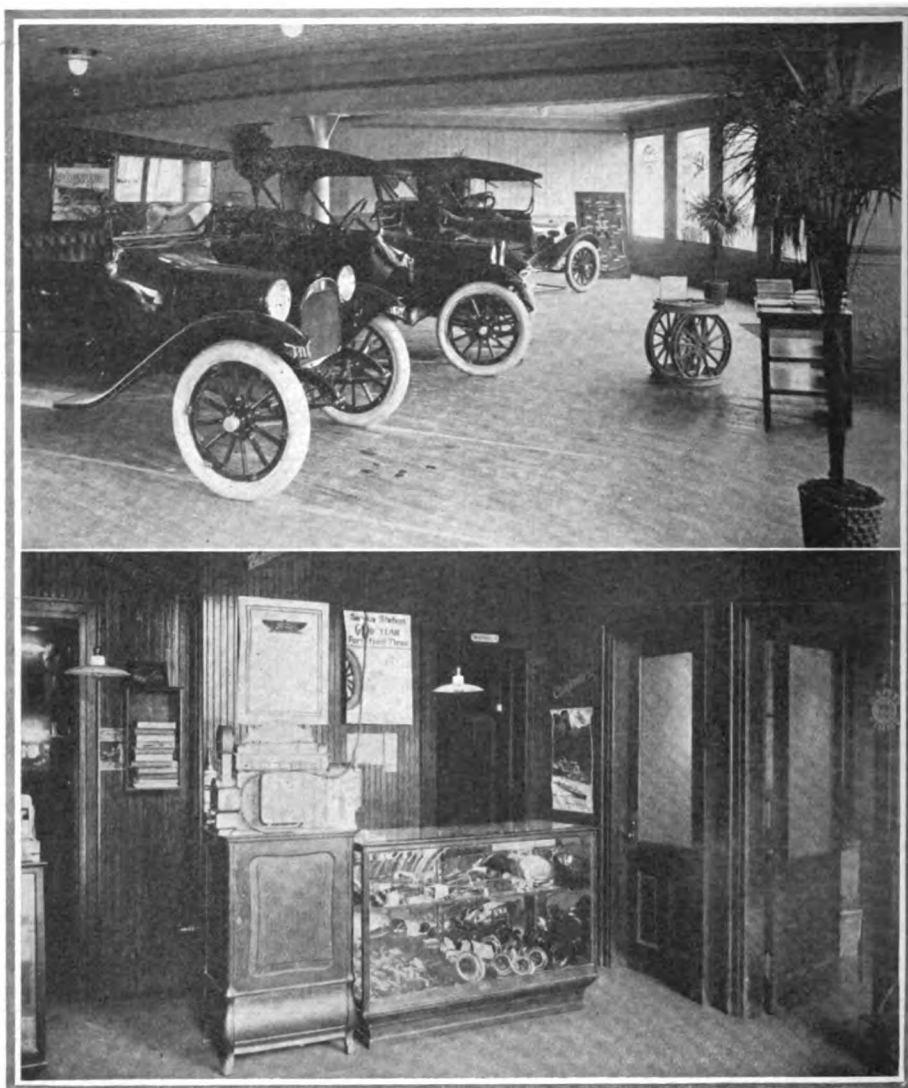
How well he holds his customers is shown by the fact that he still has four of the five people he sold his first cars to back in 1900 when he was agent for the Oldsmobile. The fifth man is in the garage business for himself, so he is hardly a loss.

Just how necessary it is to keep on the job is illustrated by a recent experience with an owner who came in complaining about the poor quality of his two rear shoes. He said they were rim cut after 1,500 miles, and yet he always kept them properly inflated. Inspection showed them to be rim cut, but a gauge also revealed the fact that the pressures were 25 and 30 pounds, respectively; far too low for 34 x 4 tires.

The result was that the customer was convinced that he was to blame. He bought two new shoes, a set of shock absorbers and a horn, a total of \$80, and yet if an employe had met this customer his trade would probably have been lost.

Dragging Brake Did It

Another's trade was saved by showing him that his tire trouble was due to a tight brake. This man had a rear tire that had gone 2,700 miles when it showed signs of giving out. Investigation proved that the trouble was largely due to a tight brake; but for this the



Petry's extensive showroom is a lesson in cleanliness and order. Dodge, Studebaker, Ford, Cadillac and Hupmobile are handled

A corner of Petry's accessory store with the stockroom in the rear. Here, too, cleanliness is the standing order of the day

customer would have thought that he had been sold a poor tire and would have gone elsewhere.

This is the story of Petry's success and he believes that any man can do just as well providing he tries as hard to keep his customers, but to succeed requires long hours and hard work.

Favor Battery Rental

CHICAGO, September 24—The electric garagemen in this city are much in favor of a battery rental plan that has been put into operation by the Walker Vehicle Co., maker of the Chicago electric. Under this plan the cars are sold without a battery and a deduction of \$270 is made from the list price.

Batteries are rented to the car purchasers at an average cost of about \$18 for an 11-plate, 40-cell battery during the first year. This rate is lower the second year. The deduction of \$270 in the list price pays the rental for a year and a half or more. With the rented

battery goes a considerable amount of service.

The advantage to the garageman comes in that the batteries are rented by him and he receives a commission on the rental, which involves little trouble or expense on his part. The Walker company is also advertising that "any one of Chicago's many competent electric garages is able to give all the attention necessary to assure the finest service." This is aimed at the prospect who has believed the contrary, and it is also designed to build up the electric garage business. Based on 12,000 miles a year the company estimates a saving of \$356 to the car owner through the system.

The batteries are obtained from a battery company and not from the Walker company. A leading garageman states that his profit should be about \$3.50 a month on each rented battery.

In addition to the advantage to the garageman the car owner is benefitted by never becoming the owner of a worn-out battery.

20 Cars to Start in Astor Cup

Twelve Drivers Already Have Qualified for 350-Mile Race on Sheepshead Bay Speedway Next Saturday

NEW YORK, September 28—Twenty cars will start in the 350-mile race on the Sheepshead Bay Speedway on Saturday, October 2, the original entry of thirty being reduced to this figure by some not being in running condition, others withdrawn for lack of drivers, and others eliminated due to accidents. The latest elimination was the Maxwell, driven by Harry Grant, which took fire in Monday's practice, when Grant was severely although not fatally burned, and the car badly damaged. Only one F. R. P. with Knight motor will compete. The Peugeot which Ralph Mulford was to have driven is not ready. It will be impossible to get the Delage, entered by Harry S. Harkness, president of the speedway, ready in time. Other withdrawals are, Bugatti, Sunbeam, and one of the Stutz entries. It is uncertain whether the Erwin specials, generally known as the Bergdolls, will appear or not. Elimination trials to determine the order of starting in Saturday's race are progressing slowly, thirteen cars having taken their trials the first 2 days. The trials will be continued today and tomorrow.

It is not certain whether elimination trials will be as fast as one the Chicago speedway, due to the fact that, with the parabola banking, the drivers are forced

to drive wider and higher on the track than they did at Chicago, where the straight banking is used. It has been calculated that in a lap of the 2-mile speedway, a car travels 197 feet further when averaging 100 m. p. h. This is equivalent to $1\frac{1}{2}$ seconds per lap, which equals about 4 m. p. h.. On the Chicago track, with its straight banking, it was possible to make as high speeds close to the inner edge of the track as high on the banking.

The Mercers and F. R. P. cars have not yet been on the track except for a few laps, and no gauge of their speed possibilities has been obtained. The F. R. P. motor has been redesigned so that there is now a water-jacket between the piston and the inner sleeve, this jacket extending upwards from the base of the cylinder casting.

Bosch Prizes For Astor Cup

NEW YORK, September 25—Following its usual practice the Bosch Magneto Co. has offered a number of prizes for the Astor Cup race on the Sheepshead Speedway, October 2. The winning driver will receive \$500 in gold, the second man \$300 and the third \$200. In addition there will be an additional bonus of \$100 for each place providing the win-

Elimination Times to Date

Driver and Car	Time	M.P.H.
Resta, Peugeot	1:08.2	106
Aitken, Peugeot	1:08.65	105
Oldfield, Delage	1:10.07	102.75
Anderson, Stutz	1:10.84	102
Burman, Peugeot	1:10.85	102
Wilcox, Peugeot	1:11.00	101.5
Rooney, Stutz	1:11.45	101
Cooper, Stutz	1:11.80	100.7
Grant, Maxwell	1:13.00	98.5
O'Donnell, Duesenberg	1:18.82	91.5
Haibe, Sebring	1:19.29	91
Haupt, Duesenberg	1:20.05	90
Rickenbacher, Maxwell	1:28.85	81

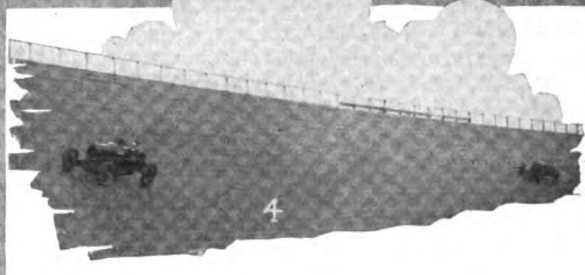
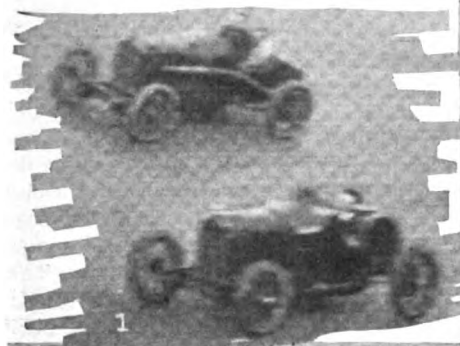
These Have Not Tried

Driver	Car
De Palma	Mercedes
Pullen	Mercer
Ruckstell	Mercer
Porporato	F. R. P.
Henderson	Duesenberg
Vail	Mulford Special
Alley	Ogren
Le Cain	Pugh Special

ner makes a better average than the best time made in an American long distance contest. The only condition is that the driver must employ Bosch magneto ignition during the entire race.

Safety Last!

Blocking up a car by the runningboard irons while a mechanic crawls under to make repairs is criminal carelessness, yet the Motor World Road Man saw an instance of this. It is hardly necessary to add that while the irons may be strong enough to hold the car it is not safe to depend on them.



1—The cars are little more than a blur as they wheel around the steep turns. 2—The interest that is taken in the elimination trials is evidenced by the crowd in the stand last Saturday. 3—Resta's mechanic examining his tires with two of the Stutz cars in the background. 4—Brushes were many last Saturday. This gives some idea of the steeply banked turns

Territorial Conditions Analyzed

Profits Float by the Door While Dealers Wait for Cars— Winter Announcements Might Solve Problem

By Ray W. Sherman

MINNEAPOLIS, September 27—While profits are floating by the door and all that is necessary is that the dealers reach out and pull them in, the dealers of the northwest are obliged to sit idle and suffer financial losses because of an inability to get cars. A situation has arisen which is critical. The dealers protest but mildly, for they have encountered similar conditions before, yet most of them are anxious for some solution to the problem, the seriousness of which has not been generally recognized.

A shortage of cars is in some quarters considered indicative of a healthy condition within the industry, but it is not entirely optimism for the dealer whose sole sustenance is from the sale of cars and who would like to see his bank balance pile up to the point where he could take that little trip to the expositions or run down to Florida this winter. With the dealer it is serious.

Dealer Not Finding Fault

Also, it is well to add, the dealer is not disposed to find fault with anyone. If there is any fault it lies at the door of the industry itself and the manner in which it has developed. The important thing is that the condition exists and is a hardship on the man upon whom the industry depends for its existence.

Imagine the situation. Here is a dealer who several years ago forsook the line of business in which he was engaged and cast his lot with the motor car. He believed in the future of the industry and still believes in it. He has invested in salesroom and service station. He has to pay taxes and many other expenses. He is able, capable, willing and a hard worker.

His own business judgment told him that with this rapidly developing section and with the prosperity of the population on the increase the merchandising of cars would be a profit-paying pursuit. And he was and is right.

Now—He sets his sales organization in operation. Prospects are rounded up. The advantages of the car are explained. The pleasure and utility of a car are expounded. The prospect yields and will become a buyer. He buys; others buy; the sales organization keeps on working; subdealers send in orders; things are going swimmingly, when it is suddenly discovered that the orders from the field are getting away ahead of the deliveries from the factory.

THIS is the first of a series of analytical articles written on the spot by Ray W. Sherman, who is traveling through the great Northwest territory for the express purpose of investigating trade conditions and analyzing the situation. The matters about which he will write are of vital interest to dealers all over the country for they will take up the various problems with which every dealer must wrestle. Mr. Sherman will be in this territory for more than a month and these articles will appear during his stay there.—Editor.

The dealer chafes. He perhaps makes a trip to the factory in an effort to accelerate deliveries, but his efforts are unavailing. The factory shows him that it is in full operation. Men are working day and night. Other dealers and distributors are crying for cars that cannot be built for weeks to come. The dealer goes home.

Sell for Future Delivery

He tells his men to keep on selling, but to sell for future delivery, in October, November, or perhaps in December. The salesmen try to follow instructions, but meet an obstacle. The buyer says: "I want a car—but not in December. I want it now." The dealer can't give it to him now, and what is the result? If the car sells for \$1,000 and if the dealer's commission is 20 per cent, he loses \$200 in cash for every car he can't deliver. And that is what is happening all along the row. Some dealers have quit taking orders, for it is useless effort. One distributor told his Duluth dealer: "You are an implement dealer and cars are only a side line with you anyway; so do me a favor and don't take any orders." The Duluth dealer granted the favor. He has sold one car this year. He could have sold more had there been more to sell. It is simply a case of sit and watch the profits pass by the door. Without cars to sell they can't be secured.

One dealer stated that he believes the fault lies at the far end of the industry in the factories of the parts makers. Just who is to blame there he did not know. He said that cars of his line

were delayed because the motors were delayed. Inquiry revealed that the motor maker was short of men and could get none. To accelerate proceedings the car manufacturer hired 100 skilled mechanics and shipped them in special cars to the motor maker's factory, which started the works running.

Another dealer tells of going to his factory—he has no cars at all—and finding chassis without motors standing idle and of, at another time, seeing completed chassis waiting for bodies. The car factory was held up for parts. These parts had been ordered on a schedule, but the schedule was not being followed. Another dealer said he thought the rush after war-order profits may have had something to do with the undesirable condition of affairs.

Announcement Time at Fault

O. H. Gray, Gray Motors Co., Studebaker distributor, said he had lost a clean \$30,000 because the Studebaker factory could not give him cars. Last Saturday night there was just one unsold Studebaker in this territory and that belonged to the wholesale branch manager, J. A. Graham.

Gray said he believed the time of announcing models is the spot to place the blame. He said the bringing out of new cars in July was directly the cause of all this car shortage. As he explains it, the situation is thus: Summer is the time of big demand; the early summer and spring in this section. It is hard to sell cars in the winter months, for the cold freezes the northwest in a death grip and many cars even in the big cities are garaged because of the cold.

Under the present announcement system the new models are brought out in, say, July. The dealers at once want cars and the factories ship as fast as they can. But the demand is far ahead of production. This causes the shortage during July, August and September, which are fine selling months. Then, as the demand slacks up and the factories keep speeded up there are plenty of cars in October, more in November and a big surplus in December, January and February.

Storage That Cuts Profits

The factory then wants the dealer to take cars, and if he takes them he is at a loss for storage and insurance. The spring season is shortened by the expectation of new models again in July, and the whole year is resultantly affected. Also, cars which are put in storage during the winter often depreciate because of damage unavoidably sustained, and this depreciation inevitably costs more money.

With the show in February in this city there is practically nothing new to show, which prevents the show being

a prime selling show. Of Gray's 30 sub-dealers but 10 have had demonstrators, and all their customers are anxious to buy.

If new models were announced in, say, December, he maintains, the winter shows would reveal new goods and the interest of the public would be intense. The factories would then be working ahead of demand during January, February and March, and when spring opened there would be plenty of cars and the plenty would continue through March, April, May, June, July, August and September. There would be some

slacking up in October and November, but the net result would have nullified this slack few days. Also, he states, practically all dealers would be only too glad to buy cars during the winter if it meant the material for filling assured orders later on.

There is no question but that a change from the present announcement system would be welcomed here. In fact, the Minneapolis Automobile Trade Association has sent such a petition to the National Automobile Chamber of Commerce and is continuing its activity in other ways.

Why Reputable Dealers Permit Curbstoners

A Hitherto Undisclosed View of This Situation—If It Is an Evil, Is There a Remedy?

MINNEAPOLIS, September 27—The curbstone dealer, according to the reputable dealers in the small towns of this and other territories, is one of the evils of the motor car industry. But he exists in quantity and variety.

In an effort to ascertain the reason for his existence and to learn if it were possible to remedy the situation in any way an investigation has been conducted among the distributors of this city. These distributors cater to one of the wealthiest and biggest buying territories of the world. The distributors are practically without exception men of repute. They are not men who permit an abuse to exist merely because it means a little profit to themselves.

Satisfied With Low Profit

Before proceeding it may be well to define a curbstone dealer. He is a man who has no garage or salesroom; hence the term curbstone. Generally he has some other job or business and makes the selling of cars a side line. His other business supports him and therefore any profit he makes out of the sale of cars is extra money. Because it is such he is very often willing to sell at a very small profit, often as low as \$25. This makes him in such cases a hard-to-fight competitor, and to him is attributed much of the price-cutting in the small towns. That is the small town dealer's definition and opinion of the curbstoner.

Why, then, should there be any curbstone dealers?

This question was asked of some of the best distributors in Minneapolis, men whose organizations include several hundred dealers and whose territory reaches from the middle of Wisconsin through Minnesota, across the Dakotas and to the far western boundary of Montana.

The answers are summed up in the statement of one of the distributors. He said: "You ask me if I have any curbstone dealers in my organization. My

answer is Yes, I have; quite a few of them. You ask me Why. My answer is: That's all I can get.

"In thousands of the small towns in the northwest there are not more than two men who have garages and who can properly be classed as being in the motor car business. That's about all the town will stand in the garage line. More could not exist. And those that do exist have to depend upon the farmers of quite a territory for their business.

Curbstoners Fill a Gap

"Now, we shall concede that there are, aside from the Ford, three leading cars—Overland, Buick and Studebaker. Therefore, the little town garageman wants to represent one of these and he gets it if he can. Also he may take on one or two others. Let us assume he does this and that there are two garagemen in his town. That makes six lines of cars represented there.

"Now, I come along and want representation in that section. I am entitled to sell cars there, am I not? I go to these garagemen with my proposition and they decline to do business with me. They have all they properly should carry and are satisfied with the business they are doing. What am I going to do? Come back to Minneapolis and stay out of that section? Would you? Would any distributor?

"I do the only thing left to do. I look up an implement man, a hardware man, a grocery man, a druggist, a banker or some reputable business man of the town and arrange with him to represent our line. And because he is not a garageman he is a curbstoner. I admit he is a curbstoner and I admit that he often shades his prices pretty badly. I tell him he is foolish to throw his profits away by cutting like that, but you know about what good that does. He is likely to answer—and truthfully—that the garageman cuts, so why shouldn't he? I

try to get him to cut as little as possible and use what influence I have with him.

"I now have a curbstone dealer, haven't I? If I have come into the field with a new make of car and if the grocery man, the druggist and all the rest have been sewed up with other lines of cars what am I to do? If I want representation in that territory at all I have to sign up what I can get. He may be only a farmer on the edge of the town or he may be the cashier in the bank, but he's all I can get.

Bankers Made Good Dealers

"Some day I may be able to shift the agency to a garage or other place, but if I am to sell any cars at all I must depend upon the curbstoner. I know how he stands with the other dealers and I am familiar with the whole situation, but what can I do? If there is a remedy I wish some one would tell me what it is."

One distributor said he considered that in a couple of bankers he had secured excellent dealers, even though they fall in the curbstone class. He said they knew the people, knew their financial condition, could carry paper and sold quite a few cars.

Spokane Short of Cars

SPOKANE, September 25—Never in the history of the trade have dealers made such strenuous efforts to get more cars. Some have even offered to pay more for the extra cars than for those contracted for, while several are credited with having sent men to other cities to buy up as many cars as they can possibly get from agents and subdealers, offering them special inducements.

Few dealers or distributors give out figures for publication, but enough has been seen and heard from salesmen, from city officials and others who keep closely in touch with the situation, to warrant the statement that on the average every dealer sold 100 per cent more cars in August of this year than in 1914, while several disposed of from 300 to 500 per cent in excess of their 1914 August sales. It was the best month the trade ever had.

In the last two weeks of August the Hodgins Motor Co., Maxwell distributor, received 50 cars, all of which could have been sold again at a big premium. More than 100 Overland cars came within the last four weeks, besides five or six carloads which went direct to other distributors in the state. For the last six or seven weeks an average of five carloads of Dodge cars, or 25 cars, have been received by the Seven Seven Co. This company has requested that Dodge Bros. increase its appropriation by 500.

More than 50 per cent of the sales made in August and since have been to farmers.

Boosters Drop Care for a Day

And Fun Is the Order With "Wag's" Farm
as the Playground — Poertner's Ball Game



Left—The "grandstand" during the baseball game. So great was the demand for space that half the fans had to stand



Right—Breakfast, the first event of the day



S. A. Marks, Oldsmobile Co. of N. Y., and F. A. Haines winning the final of the wheelbarrow race



Gene Sullivan, the Auto Supply Co., hopping to victory in the sack race

NEW YORK, September 28—Thursday last was a holiday for the Big Village Motor Boosters, and a very successful holiday it was. The outing was held, as usual, at Fred Wagner's farm, in Smithtown, Long Island. This was the fifth event of its kind. Over 130 turned out, and all in all it was the most successful outing ever held. Dignity was thrown to the winds and everybody romped and played, and ate until even the liveliest of the crowd was ready to call it a day's fun and start homeward.

The program called for a 7-o'clock start from the Motor Club, and three hours was allowed for the 50-mile trip to the farm. However, it is a serious question whether anybody averaged less about 25 per, as the route lay along the Long Island Motor Parkway for the major part of the distance.

The first event on the program was the distribution of the hats and badges, and as soon as this duty was attended to the baseball game was called.

Wm. Poertner's Nationals trimmed R. R. Johnston's Whites 14 to 9, thereby winning the R. H. Johnston trophy, which was a bronze statue. Harry Allen, the umpire, was nearly lynched in the

third inning when he was dragged off the field by the enraged Nationals. Quick work on the part of the management prevented a tragedy. The Nationals consisted of Wm. Poertner, J. Bastian, C. D. Studebaker, E. Reid, F. G. Carrie, C.

A REAL BOOSTER

Refuses to join in the anvil chorus.

Doesn't believe that the door of success will open by knocking.

Doesn't lend trouble. He knows it will be paid back.

Doesn't put his foot in things through his chin-chin

Never loses his temper whether he is right or wrong.

Shoulders trouble with a smile.

H. Larson, S. Marks, F. G. Hill and Robert C. Ballantine. The Whites were R. H. Johnston, H. H. Sibley, B. Reiss, G. R. Redburn, M. Warnoff, M. A. Cross, H. Heath, Bob Burman, E. J. Sullivan and W. Sweet.

Meanwhile endless bottles of "pop" were supplied in big wash tubs, where

the thirsty ones might help themselves. Sandwiches, hot dogs, and sweet corn were also within easy reach of those who were unable to last from breakfast to the afternoon clambake.

After the baseball game the other events, 14 in all, were run off with great rapidity, so that there was not a moment when something interesting was not going on. There was always something to watch, and generally something to laugh at, as most of the events were more or less comic.

Great amusement for nearly everybody was furnished by the wheelbarrow race. This was run in three heats, with four in each heat. The winners of the final heat were S. A. Marks and A. Haynes, the time was 11½ seconds and the distance was approximately 50 yards. The preliminary heats furnished the most fun, for there were several drivers who dumped their passengers overboard in their efforts to win, and in one or two cases where a fat man had a weak pusher places were exchanged during the race—this is where the contestants used their automobile knowledge to advantage—it is easier to push a light load with a powerful motor than vice versa.

The 50-yard dash evolved H. H. Sibley, of the Splittorf Electrical Co. a winner, but his victory was protested because he cut the pistol and the race was run over. This time, H. G. Larson won by inches in 5½ seconds.

The fat man's 50-yard dash (for men weighing over 200 pounds) naturally produced a lot of merriment, and J. Bas-

tian waddled over the line a winner in 7 seconds.

The three-legged race, also for 50 yards, was won handily by C. D. Studebaker and Billy Wolfe in 7¾ seconds. H. H. Sibley was the Big Bertha of the baseball throwing contest, hurling the missile all of 100 yards.

The sack race, which might better be

called a kangaroo contest, was given to J. Sullivan for superior speed. He won in 12¾ seconds.

The shoe race went to W. H. Stewart, whose time was 13¾ seconds, and the golf driving contest was annexed by W. H. Sweet, who knocked the ball clear across the farm, or over 900 feet.

The rest of the events, of which there



Hugh Harding in Briscoe stopping at station No. 1 in the gymkhana to get a cigar and light it



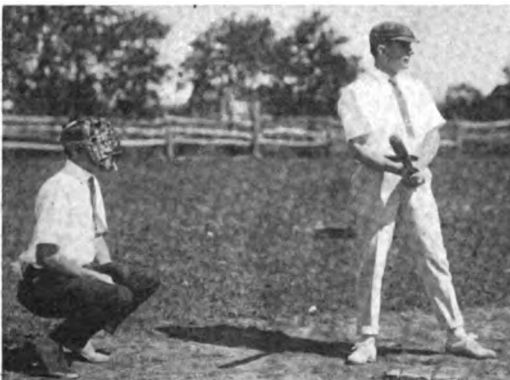
The culinary department. Great praise was due this end of the outing



Winning the three-legged race. Left—C. D. Studebaker, Firestone Tire & Rubber Co.; right, Billy Wolff, Republic Rubber Co.



An exciting moment in the shoe race, which was won by W. H. Stewart, Jr., Stewart Automobile School



Wm. Poertner, Poertner Motor Car Co., National, at bat and G. R. Redburn catching. Poertner was captain of the Nationals, who defeated the Whites, led by R. H. Johnston, by the score of 14 to 9. An enthusiastic bunch of fans watched the contest



Arthur Donovan, D & P Auto Repair Co., winner of the gymkhana, pauses a few seconds at station No. 2 to drive six 3-inch nails into a plank in record time. When approaching a station he would set the emergency and jump out with the car rolling briskly



Exciting episode in the third inning when the umpire, Harry A. Allen, was all but lynched by the Nationals. Wm. Poertner, Poertner Motor Car Co., and Jack Bastian, Firestone Tire & Rubber Co., constitute the mob

were five, required the use of cars. First on the list was the guessing time contest, which A. M. Breitenbach, Brady-Murray Corp., Chandler, won. He drove 100 yards in 29½ seconds, this time being the closest to the secret time, which was 44 seconds.

The forward and reverse race produced a lot of excitement and was won by Otto Braunworth, in a four-cylinder Buick in 13½ seconds. The distance was 50 yards. This contest called for considerable driving judgment and skill as well as good brakes and non-skid tires.

Gymkhana Is a Feature

The gymkhana, won by Arthur Donovan, D. & P. Auto Repair Co., furnished the best sport of the afternoon. Donovan had a Marion roadster and his fast time of 1:16¾ was due to his masterly driving. In this contest there were four stations, arranged around the bases of the baseball diamond, one for starting and three at which stops had to be made and various things done. At the first station the driver had to light a cigar, at the second drive six 3-inch nails into a board, and at the third he had to count about 30 beans and keep at it until he announced the right number.

The potato race was won by Oscar Rhode, Splitdorf Electrical Co., and Hugh Harding in a Briscoe. Time, 10¾ seconds.

The slow speed contest went to R. H. Johnston in a big four-cylinder White. His time for about 100 feet was 11¼ seconds.

Hardly was this contest over when everybody was called to the clambake, and after this enjoyable event Al. Reeves presented the prizes, which consisted of gold cuff links, gold scarf pins, and in the case of the gymkhana an eight-day 15 jeweled flush type Waltham automobile clock, donated by the Waltham Watch Co.

The following committees had the outing in charge:

General Committee: William A. Allen, chairman; F. E. Tucker, W. S. Silver, Charles Wells.

Sports Committee: Wm. M. Sweet, chairman; Harry Burchell.

Souvenirs and Badges Committee: Edward F. Korbel, E. McShane.

Transportation Committee: George Robertson and W. C. Poertner.

Among those present were:

Mr. Abbott, White Co.; Harvey Adams, the Auto Supply Co.; Wm. A. Allen, Allen Auto Specialties Co.; W. C. Allen, Bijur Motor Lighting Co.; Mr. Asch, Asch & Co., Inc.; A. N. Atkinson, Stewart Auto School; J. A. Atwell.

Robert C. Ballantine, the Auto Supply Co.; Jack Bastian, Firestone Tire & Rubber Co.; E. F. Bellmer, General Motors Co.; Harry Benner, Federal Rubber Mfg. Co.; Otto Braunworth, Dunlop Tire Traction Tread; J. B. Breitenbach, Brady-Murray Motors Corp.; H. C. Brokaw, Y. M. C. A.; C. M. Brown, Winton Co.; George D. Brown, the Auto Supply Co.; C. H. Bowers. E. J. Carhrey, Motor Car Equipment Co.;

F. G. Carrie, Marmon Co. of N. Y.; W. R. Chandler, the Auto Supply Co.; P. Clust, Dieges & Clust; R. A. Cole, Auto Owners Supply Depot; F. A. Croselmir.

H. J. De Bear, Maxwell Motor Sales Corp.; F. S. Dickinson; C. J. Dieges, Dieges & Clust; Arthur J. Donovan, D. & P. Auto Repair Co.; L. G. Duquet, Auto supplies; J. B. Elsey.

Wm. Fehlhaber; J. H. Ferris, Oldsmobile Co. of N. Y.; Hy. Goodman, New Haven Carriage Co.

F. A. Haines; Hugh Harding; H. O. Heusack, Brady-Murray Motors Corp., Chandler; F. G. Hill, Republic Rubber Co.; George W. Hipple, Carl H. Page Motor Co., Mitchell; Walter Hopper.

R. H. Johnston, White Co.; S. Kandull; E. Korbel.

C. H. Larson, Oldsmobile Co. of N. Y.; Hubert G. Larson, Oldsmobile Co. of N. Y.; E. Lascaris, De Dion Bouton; E. Lewis; Edward Lyndon, Bijur Motor Lighting Co.

E. C. J. McShane, Whiting Motor Co.; D. J. Mangin; Louis Mansuy; S. A. Marks, Oldsmobile Co. of N. Y.; J. C. Matlack; Mr. Miller, Miller, Hicks & Hewitt; H. C. Miller, Miller Rubber Co.; John A. Moore, Briscoe; F. W. Morrow; A. S. Murray, Brady-Murray Motors Corp.; J. C. Nichols, General Auto Supply Co.

J. P. Orteig; W. Parkinson, Wm. Parkinson, Stutz; F. W. Pelham, Lippard-Stewart Motor Sales Co.; W. C. Poertner, Poertner Motor Car Co.; Perry M. Powers, Republic Rubber Co.; M. C. Powers, Miller Rubber Co.; W. Queripel.

A. R. Redburn, Spar-East Co.; Alfred Reeves,

General Manager, N. A. C. C.; Sam Regar, Brady-Murray Motors Corp., Chandler; E. L. Reid, Goodyear Tire & Rubber Co.; Charles E. Riess, Charles E. Riess & Co.; Byron H. Riess, Charles E. Riess & Co.; G. H. Robertson, Auto Supplies; A. J. Rohde, Splitdorf Electrical Co.; J. E. Roskam, Roskam-Scott Co.

H. H. Sibley, Splitdorf Electrical Co.; L. R. Smith, the Class Journal Co.; V. R. Smith; D. E. Smith; Joseph Stern, Oldsmobile Co. of N. Y.; L. C. Stevens; R. A. Stendicke, the Auto Supply Co.; Wm. H. Stewart, Jr., Stewart Auto School; C. A. Stewart, secretary, Automobile Dealers Association, Inc., New York, N. Y.; Wm. H. Strutt; C. D. Studebaker, Firestone Tire & Rubber Co.; Charles M. Sture; H. C. Stutz, Stutz Motor Car Co., Indianapolis; E. J. Sullivan, the Auto Supply Co.; F. R. Sunderman, Sunderman Safety Carburetor Corp.; A. E. Swartz, Sunderman Safety Carburetor Corp.; R. M. Terry, Hartford Suspension Co.; S. S. Toback, A. E. Ranney Co.; F. E. Tucker, Stromberg Motor Devices Co.; T. B. Van Alstyne, the Class Journal Co.; E. Van Schossen, Auto Owners Supply Depot.

F. A. Virtue, William Parkinson, Stutz; A. F. Wagner, Wagner Specialty Co.; A. J. Walker, Jr.; Howard W. Walton, Lippard-Stewart Motor Sales Co.; A. M. Warren, Whiting Motor Co., Mercer; A. Watterman, Hartford Suspension Co.; F. G. Webb; John C. Wetmore, Evening Mail; F. M. White, Stewart-Warner Speedometer Corp.; A. H. Whiting, Whiting Motor Co., Mercer; Billy Wolff, Republic Rubber Co.

Does It Pay to Exhibit At Fall Fairs?

Minneapolis Dealers in Medium-priced Cars Say Yes— Value Wanes as Price of Car Increases

MINNEAPOLIS, September 27—Does it pay to display cars at a state fair? The answer is Yes—half-heartedly and enthusiastically. Those who answer enthusiastically are the distributors of low and medium-priced cars and the enthusiasm wanes and approaches the half-hearted stage as the price of the car ascends.

The Minnesota State Fair, which has just been held, brought something like 300,000 people together. There was a considerable display of cars, and there were good results. The space sold for from about \$80 to \$150, according to how much the dealer used, and generally two or three cars were shown.

Big Success With Cheap Cars

With the low and medium-priced cars there was big business. As the price ascended the business grew less. This seems to be the situation at various shows at fairs; it is the car of lesser price which gets the business and the advantage. This may be due to the fact that the bulk of farmer buyers are seeking serviceable vehicles of moderate price rather than more luxurious cars which cost more money.

The situation is probably best described by placing two pyramids side by side, one upside down. The one upside down represents price, the other buyers and prospective buyers. The greatest

number of buyers is on a line with the smallest price and as the price becomes larger the prospective buyers become fewer. As the price grows the number of buyers approaches zero. The opinion of the distributors in this city is best expressed by such pyramids. The lower the price of their cars and the more popular they are the greater is their belief in the value of a show at the fair.

Show Is Excellent Publicity

Harry Pence, of the Buick; G. H. Herz, New Era and Alter; E. B. Stimson, Empire; J. A. Graham, branch manager, and O. H. Gray, dealer, both Studebaker; R. W. Munzer and his son, C. I., handling the King; W. J. Bowman, Overland, and others in the class below and around \$1,000, consider the show at the fair as the finest publicity obtainable. Aside from the publicity there was considerable business; some dealers signed contracts, some buyers bought at retail and there were both buyer and dealer prospects added to the lists.

But when it gets up into the price class of the Mitchell and Paige, handled by Frederick E. Murphy; the Franklin, by L. A. McKay, and other in the ascending scale of price, the value is asserted to be less. The fair always draws the throng and the buyers in this crowd are generally seeking price rather than quality.



"Then when they do jump they don't go nearly as far as they thought they would"

Runaway Optimism Far from Being Healthy Business Asset

Results Which Are Over-estimated Before Achieved Are Discounted by Comparison—The 60-Car Dealer

By Ray W. Sherman

"**H**UH! Sixty cars!" grunted the Sales Manager.

"Sixty cars?" repeated Reilly, who sat in the office of that factory official and, while he labored with a big, black cigar, watched the Sales Manager rip open letters.

"Yes, sixty cars!" reiterated the factory man. "And he won't sell twenty."

"He won't? Who won't?"

"Casper, of Green Falls," replied the Sales Manager. "He'll do well if he gets rid of twenty, too."

"Well, I never said he could sell sixty cars," defended Reilly. "Don't drag me into this argument."

"Don't worry. You don't have to be dragged into things to get there."

"And I didn't say you had to let him have sixty cars," added the dealer, ignoring the previous shot of the Sales Manager.

Rampant Optimists

"Don't worry. I don't have to let him have them. He won't want them. And what I won't do is let his contract stand for sixty cars. It's all foolishness."

"Yes?"

"He's just one more of these wild-eyed optimists. More optimism than brains."

"Oh, that breed," commented Reilly, just as if he knew all about what the Sales Manager was talking about. "Have you any particular objection to a man's being an optimist?"

"No! Not unless he lets it run away with him," retorted the Sales Manager. "But," he added, "these dealers whose eyes are bigger than their stomachs are the bane of my existence. I used to fall for their stuff and I got into a lot of trouble thereby, but I don't do it any more. I've got so I can spot one of them miles away. He doesn't even have to be seen; all he needs to do is write me a letter."

"Furthermore, this man isn't an op-

timist; he's a—a—a self-exaggerator, I guess. That's as near as I can come to defining him. He always bites off more than he can chew, and if I let him bite it off it always winds up by our having to chew it for him."

"A poor calculator," suggested Reilly.

Dreaming Rosy Dream

"Poor? Rotten!" asked and answered the Sales Manager. "Now take this man Casper, for instance—and there are lots more just like him. He wants the agency—and wants it bad. He wants to make a good impression on us so we will sign him up and rate him as a good dealer, so he proceeds to write us letters, telling all about how good a dealer he will make, and tells us he will contract to take sixty cars this coming year if we will give him Sunflower county."

"I can see him now. He sits down at his desk—if he has such a thing—and dreams dreams about himself as an automobile dealer. He sees himself riding around in a car and holding his head up a little higher than those poor unfortunates who haven't got into the automobile business. He's a dealer, he is, and he wants every one to understand it."

"In his dream he imagines he sells cars. He wonders how often he can sell one. He thinks he ought to sell a car

every week. That makes fifty-two cars in a complete year. Then he figures that he ought to be able to sell two some weeks and he adds about eight more for good measure and decides that he can sell sixty cars in the coming year.

"Gee!" he says. "That will tickle the factory, won't it, to have me sell sixty cars for them? And see all the money I'll make selling them! Let's see: I make—" he figures "—three hundred and sixty dollars on a car. Sixty times that is twenty-one thousand six hundred dollars. It will cost me the six hundred dollars to do business and I'll make a clean twenty-one thousand dollars in a year. Gee! What a wad!"

Needs a Little Pessimism

"By the time he gets through figuring he believes it himself and is all enthusiasm. Instead of injecting sufficient pessimism to cause him to sit down and figure out the common sense side of the question he begins to boil over with optimism and can't see anything but a big year ahead of himself. If you ask him if he can sell sixty cars in a year he insists that he can. He believes that saying 'I can' ends the matter."

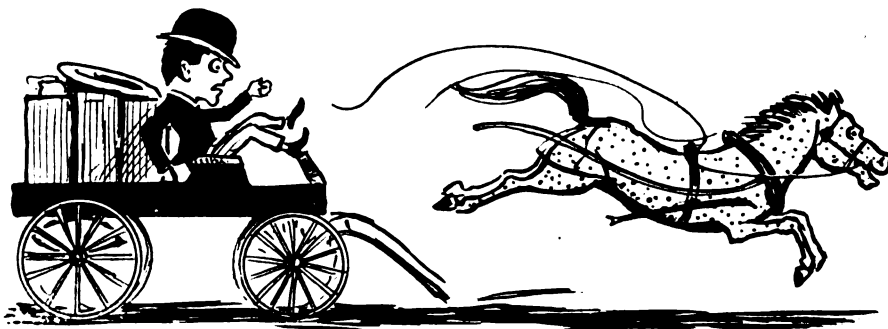
"Sometimes it does help," asserted Reilly.

"Yes, it does," admitted the Sales Manager, "but there is reason in all things. Instead of getting wildly enthusiastic and optimistic and saying 'I can,' he ought to sit down and use a little hard-headed common sense. Now look here! In his town there are fifteen hundred people. In all of Sunflower county there are but about five thousand. If he sells sixty cars that means—" the Sales Manager figured "—that means he must sell a car to one man out of every eighty-three. Now there probably is a big bunch of cars already owned in Sunflower county, and this will bring it down to where he has got to sell a car to one man out of about every twenty. That can't be done, and you know it!" concluded the Sales Manager.

His Jump Is Short

"It does look like quite a job," conceded Reilly.

"Quite a job!" exclaimed the factory man. "It would be some achievement for an expert salesman, and this man never



"Optimism is a fine horse, but if the horse runs away he isn't any good to any one"

sold a car in his life. I don't believe he knows a universal joint from a nut."

"Well, what are you going to do about it?" smiled Reilly.

"Do about it? I may give him a contract for about six cars—or maybe ten—and if he sells those we may be able to find a couple more for him somewhere.

"You find these fellows now and then in all lines of business, Reilly. They are always going to do something big. They have grand schemes. The trouble with them is that they don't sit down and do a little figuring before they get ready to jump. Then when they do jump they don't go nearly as far as they thought they would. Why they fell short they don't know; they always have excuses of some sort, but they generally overlook the real reason—which is themselves.

"When I first began my experience with dealers in a factory sales department and these fellows began to come in with their big orders for the year's business I thought it was fine. I used to give a man almost anything he said he would take. Then when I had a bundle of contracts I would add the figures and it certainly made the year look rosy for the Sennett Motor Car Company. But as the end of the year drew near and some of these fellows hadn't taken anything like what they said they would, I used to have a little blue spell. I thought I was a failure as a sales manager."

"You would have been if you had kept that up."

"You're darned right I would. But I got wise to myself. I paid more attention to the dealers when they made their estimates. Those who hadn't sold their quotas the year before but who had done as well as might be expected in their territories were pared down, and some who had failed miserably were cut off.

"Good dope, Jim."

"If they were all like you, Reilly—"

"Cut zee rope!"

"I mean it! If more of them were like you things would run much better. I would much rather deal with the man who is a trifle pessimistic and who is willing to let his results do the talking. The man who says: 'It's a hard job, but I'll do my best,' is a darned sight more reliable than the man who says: 'Certainly I'll do it. I know I can do it.'

"In any work the man who boosts his results before they are accomplished generally over-estimates, and even if his results are good the difference between what he did and what he said he'd do is so great that his results suffer by comparison no matter how good they may be. The man who is a trifle pessimistic but who puts the thing over is a much stronger finisher."

"Optimism is a fine horse, but if the horse runs away he isn't any good to any one," added Reilly.

Ford Tractor to Cost About \$1.60 a Day Operating on Kerosene

Vehicle Being Continually Tested Though It May Not Be
on Market for a Year—Construction Is Substantial

DETROIT, September 25—The Ford tractor, which made its initial public appearance at the Michigan State Fair recently, is now in a fairly advanced state of development, although the officials state that it is not likely that it will be placed upon the market for about a year, as it is intended to prove it absolutely before going ahead with it.

Tests are being made with the vehicle repeatedly by the Ford company. To demonstrate the haulage ability of the vehicle it was recently driven to Cleveland from Detroit over roads that are fairly good, making the 150-mile trip pulling a 5-ton trailer at the rate of 16 miles per hour. It has also made this trip with a 7-ton tow.

As to its ability as a farm vehicle, the tractor is capable of doing from 5 to 10 acres of plowing a day, depending upon the depth of the furrow and the texture of the soil. It can pull either one plow share 16 inches wide or two shares 12 inches wide. Equipped with the Holley kerosene carbureter, the tractor uses 10 gallon of kerosene for 10 hours work.

In figuring the cost of operation, it should be considered that kerosene in this locality costs 6 cents a gallon in barrel lots, or 8 cents in small lots. This means a fuel cost of 60 cents for a 10-hour day. If the cost of the vehicle is to be \$250, then on the basis that the tractor would last one year, which is very low, and also considering that the farm work for a year would not be over 100 days, the cost for amortization would be \$2.50 per day. Adding this to the daily fuel cost, the vehicle figures to cost \$3.10 per day, doing a minimum of 5 acres of plowing.

It costs at least \$3 per acre to plow with two horses. A team cannot do more than 1½ to 1¾ acres per day, giving the following comparison:

TRACTOR

Work per 10-hour day—5 to 10 acres.
Cost per day—\$3.10, figuring that the life of the tractor is only 100 days, which is very low.

TWO HORSES

Work per 10-hour day—1½ to 1¾ acres.
Cost per day—\$3.

The above is on the assumption that the farmer would need a new one each year. Even if he did he would do the work in one-third the time, or save two-thirds for the same amount of work. It would probably be fairer to consider that

the tractor would last at least two years. Supposing it were good for 250 days, the amortization cost per day would be \$1. Then the daily cost, including fuel, would not run over \$1.60 to \$1.75. Then the comparison with horses becomes more one-sided. Probably a tractor having good care would last much more than two years.

The Ford tractor in its present form uses the standard Ford engine as used in the passenger cars, and this is coupled up to a worm-driven rear axle. Instead of the regular Ford planetary transmission, the transmission is changed to have only one speed, and the band brake is enlarged. But there are two sets of spur gears back of the regular housing for the planetary gearing, which housing is a part of the crankcase and has the regular Ford engine form. These gears give two speeds.

The worm is over the worm wheel and within a substantial housing is also the housing of the rear axle unit. By the use of worm drive in connection with the planetary transmission and the two gears back of the latter, an enormous reduction between engine and wheels is obtained. On the highest speed the reduction between engine and wheels is 32 to 1, while in second speed it is 77 to 1.

Two sets of wheels are used with the tractor. One set is of the regular truck type. The rear pair are used with solid block rubber tires, and the fronts use solid continuous rubber tires, of artillery form. For plowing and field work, where greater traction is required, tractor wheels are arranged to fit the same axles in place of the truck type wheels. The tractor wheels are steel, the rear set having steel blocks.

In its present form the vehicle uses no form of body, having only a single seat for the driver on the left. The engine is enclosed under a hood.

At either side of the hood on brackets from the frame are large 10-gallon tanks. The one on the right carries the kerosene, while 10 gallons auxiliary water is held in the right tank. For tractor work the cooling system must be adequate, for the pulling is long and steady with heavy working of the engine—conditions which would heat the engine unduly without the auxiliary water circulation through the 10-gallon tank. It is stated that the cooling is held within reasonable limits by this added water supply method.

Facts About Cars

WHY TENDENCY IS TOWARD UNIT PLANTS

The earliest automobiles had their gearboxes made separate units because they were all chain driven and the gearbox had a bevel drive, a differential and a countershaft combined with it. This made the gearset and its case actually a larger part than the motor very often, and the soft aluminum of those days was barely strong enough to be satisfactory as gearcase or crankcase alone. To have combined the two would have been to seek foundry troubles of the worst.

One of the first firms in the world to attempt the unit power plant was the English Rover company, who adopted it for a single-cylinder car about 1905, and they had a great deal of trouble owing to the flywheel casing bending and so permitting the crankshaft and the gear shaft to get out of line. But this is getting ahead a little too fast.

The first stage was to remove the countershaft part from the gearbox and build a live axle, which simplified the gear but carried the trouble to another place, for the development of a strong enough rear axle took several years. The gearbox meanwhile stayed where it had been originally in the chain days and the midship position had the great advantage that either the clutch, the gearset or the axle were separately accessible in case of trouble.

When axles were made good at last, and frequent clutch trouble ceased, the reason for the midship gearbox ceased also, but many firms were equipped for its manufacture and also it had become the most reliable part of the chassis, so the policy of let well alone caused manufacturers to adhere to their old practice. With but a few European exceptions it remained for America to see the better manufacturing possibilities of the two unit systems with either unit power plant or unit transmission.

Just about this time there was much complaint of gear noise, as the motors of that time needed frequent gearshifting and frequent use of the indirect ratios, and it was found that noise in a gearbox unit with the rear axle was less perceptible to the passengers than in a midship box and that the unit power plant was the noisiest of all. Hence the original popularity of rear axle gear location.

However, the rear axle gearset adds to the weight of the axle. Still more important is the fact that it is far from easy to arrange the gear shifting rods so that the rise and fall of the axle does

not tend to move the gears or to agitate the shift lever. To overcome this trouble is less simple than it looks, and in the shops there is a fair amount of assembly work to be done in making the connections.

Now the unit power plant goes straight into the frame complete. Nothing remains to be done to the running gear save to link up the propeller shaft, while in the machine shop it is just as easy, with modern aluminum alloy, to produce a unit motor and gear as it is to make a rear axle unit. It is noteworthy that a good many manufacturers have come slowly to the unit power plant as the design of their car has been changed. Normal progress consists of the use of all the main features of a design for several years, each season showing some small refinement, and then every fourth year or so an entirely new car appears. Changing from one gearset location to another is a thing which demands complete redesign; had it not been so the unit power plant would have come sooner than it did.

Now for the drawbacks of the latter. The main one is that it is usually less easy to reline the clutch than with any other location, but this is offset by a greater ease in obtaining access to the gears, so perhaps the original drawback remains the most important; that is, the difficulty in obtaining absolute quietness. The portion liable to be noisy in a unit power plant is the constant mesh gearing, as fluctuations in motor speed will allow any backlash in these gears to set up a minute chatter. The cure for this is for the maker of the gearset to pay special attention to the finish and proper meshing of these gears, and if a repairman finds a bad case of noise it is more likely to be the constant mesh pinions than even the front end gears of the motor. Summing up the whole case, however, it looks as though a few more years will see the complete extinction of everything but the unit power

plant except for chassis where some special feature makes a midship location essential.

TECHNICAL TERMINOLOGY ADOPTED BY THE S. A. E.

Confusion often occurs in ordering parts because the incorrect name is used; the same thing happens when a car is being discussed. To overcome these difficulties the Society of Automobile Engineers has adopted a list of words that are preferable. Below are given the most important terms from this list. Every dealer should form the habit of using these words, for it will mean the saving of much time and trouble.

Cylinder cast in block, not cast en bloc. Inlet valve cap. Cylinder head plug. Waterjacket top cover. Engine water outlet. Priming cup. F-head cylinders (one valve in head, other in side, directly operated). Crankcase (one word). Crankcase upper half. Oil pan (used for lower part of split or barrel type whether it serves as oil reservoir or not). Bushing (instead of bearing for the removable and renewable lining used in a plain bearing). Connecting-rod dipper. Water pump impeller. Manifold (more than one connection). Pipe (only one connection).

Short Rules for Calculating Interest

Five per cent—Multiply by number of days and divide by 72.

Six per cent—Multiply by number of days and divide by 60.

Seven per cent—Multiply by number of days and divide by 51.43.

Eight per cent—Multiply by number of days and divide by 45.

Formula for Cleaning Glass

Windshield glass, and all other glass attachments should be cleaned with one-third denatured alcohol and two-thirds water. Dip a soft cloth, or, better still, a small fleece wool sponge, in the water-alcohol mixture and then into some fine whiting or pumice stone flour and apply to the surface. Let this application dry on the glass, then wipe clean with soft woollen cloths and complete the work by bringing the glass to a high polish by rubbing with tissue paper.

Removing Rust from Steel

Take $\frac{1}{2}$ ounce of emery powder mixed with 1 ounce of soap and rub well.

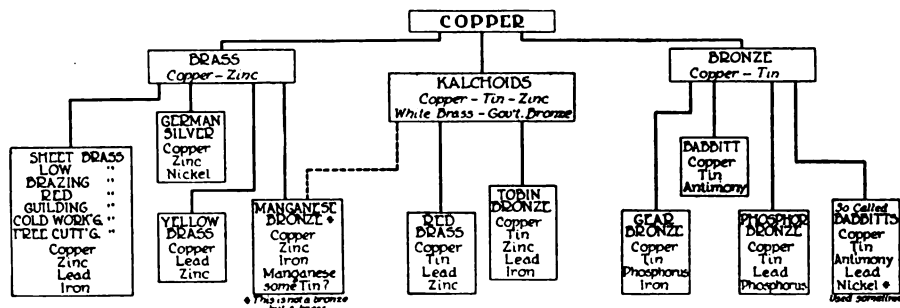


Diagram showing the relation of copper to the various brasses and bronzes, and also the composition of various copper alloys

WIDE-AWAKE MERCHANDISING

KEPT FORD REBATE IN THE HOME TILL

Record Company Issued Cou- pons in Exchange for Checks

The Record Auto Supply & Service Co., Washington, D. C., which specializes in service for Ford cars, has added one more novel plan to the number it has long had in operation. M. A. Bayles, head of the organization, has put into effect more new ideas in the service of his patrons than Washington motorists have known in years. He was first in the Washington garage field to develop and establish telephone service. By this plan, patrons who experience road trouble with their cars telephone Main 23 and are given advice or suggestions when, as often, the difficulty may be overcome by some slight mechanical adjustment, which will enable them to proceed on their way. This service costs them nothing. He inaugurated a plan whereby new owners of Ford cars may have storage and the services and advice of an expert in the operation and care of their cars absolutely free.

Went After Ford Rebate

There are no strings to either of these plans, palpable or otherwise. Like a dozen others which are analagous to the spirit behind the organization, they are expensive to the author, but they are effective, so effective that the Record company is increasing its business month over month from 20 to 25 per cent.

On August 15 word came from the Ford company that the profit sharing checks—\$50 each—would be mailed at once to more than 300,000 Ford owners. Immediately every garage and specialty man in the country began to devise ways and means to secure part of that money. The newspapers were flooded with advertising of \$50 bargains. But while the response to this advertising was good, many of the Ford owners seemed to be holding off.

Sold Coupons Like Hot Cakes

In Washington, the Times, which carried a deluge of this advertising, suddenly came out with a large announcement by the Record company to the effect that with their profit sharing checks of \$50 Ford owners could buy coupon books having a purchasing value in 25-cent checks to the amount of \$55. As in every case, this plan was consistent with its predecessors in that it had no provisos—no conditions.

The holder might buy anything in supplies, accessories, service, repairs, gasoline or oil—anything that this establishment has to sell its patrons. In short, the 200 books—all that were printed—were quickly disposed of and there were many despairing owners whose delinquency cost them this 10 per cent saving.

This profit sharing plan is merely another conclusive proof of the wisdom of the square deal. The service by the mechanics and repairmen of the Record company has been commented upon in the highest terms. And yet here too there is a reason. Bayles knew that salaries do not pay for the personal ele-

Main 23 Main 23 Main 23 Main 23 Main 23 Main 23 Main 23

For the protection and benefit of our patrons we are issuing coupon books worth \$55 in the purchase of accessories, supplies, repairs, or gasoline for \$50.

200 of these books only will be issued—the coupons to be good until used.

Our patrons are respectfully advised to take advantage of this offer.

Record Auto Supply and Service Co.
631 Mass. Avenue

Main 23 Main 23 Main 23 Main 23 Main 23 Main 23 Main 23

This is the way the Record company advertised its coupon books in exchange for the \$50 Ford rebate checks

ment of service. He knew that it was not possible for him to be all over this great establishment at once, to keep check on the 65 employees. So he introduced a bonus plan, whereby every member of the organization shares in the profits of the company; each individual shares some of the responsibility for the success of the establishment. And now each member of the staff receives a check at the end of the month remunerative in part for his cooperation.

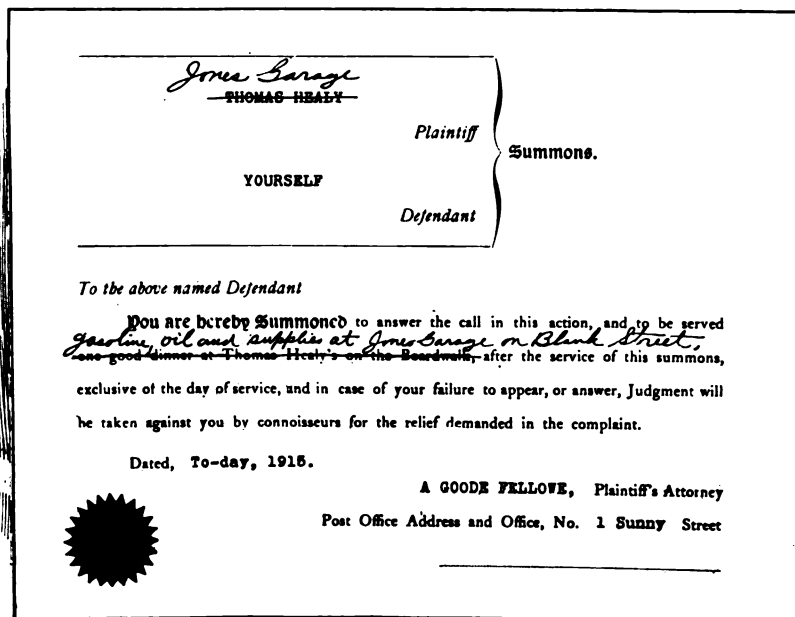
Nº 185	Date August 18th 1915
SPECIAL	
\$55.00 TRADING BOOK \$50.00	
GOOD UNTIL USED	
Name M. W. Sohn	Address 1329 E. Street. Washington D.C.
WE PAY 3% ON ALL COUPONS THAT ARE NOT REDEEMED WITHIN THREE MONTHS FROM DATE OF ISSUE.	
THIS BOOK LESS UNUSED COUPONS IS REDEEMABLE AT ANY TIME LESS 10%	
Record Auto Supply and Service Company	
631 MASS. AVE. N. W.	
NOT GOOD UNLESS COUNTERSIGNED	

Date	
Article	
Price	

This Coupon is Good Until Used for
25 cents
in any Merchandise or Repairs
with the
Record Auto Supply & Service Co.

The Record company wanted the benefit of the \$50 rebate checks which would go to its Ford owners; so it issued these coupon books which are good for \$55 worth of accessories and supplies, gasoline, oil etc. The money was induced to stay at home in the Record till

An Idea From Another Business That Can Be Used



This "summons" is handed to all motorists by a person dressed to resemble a real "cop." It is a startling document that no one likes to receive; for this reason it is a good advertisement. With a few changes like those indicated it could be made to serve a similar purpose for any garageman.

THE GARAGE NAME MAY MEAN MUCH

It Should Advertise the Business and Help Bring Trade

The name of the garage should aid in bringing business to it, and therefore it is important to select the name very carefully. Meaningless names, such as Empire, Royal, Peerless are better not used. The ideal name should give some clue as to the location of the garage, or its identification, thus making it easy for strangers to find.

For example, a newcomer to town would naturally expect to find the Court House Garage facing on court house square, probably at the center of the town. Therefore, if he saw a sign advertising this garage on the way into town he would have no trouble in finding it. East Main Street Garage would also be a good name, because it would be easy for strangers to find.

Ryan's East Main Street Garage

At the same time, if the proprietor were well known it might be well to add his name to it, making it Ryan's East Main Street Garage, or if he handled some car, say the Chalmers, it would be well to use this word as a preface, calling it Chalmers East Main Garage.

Many dealers overlook the importance of making the name of the car they are handling the first word of their corporate name. By putting the word Chalmers first, anyone desiring to get in touch with this dealer could do so by looking

the name up in the telephone or city directory. This person might not know that the East Main Street Garage sold the Chalmers car.

Sometimes a name descriptive of the building is advisable, as Blue Front Garage, Concrete Garage, or Four-story Garage. These names aid in finding the garage.

Names that give some clue as to the policy are not so desirable, because many of them are worn threadbare. The Square Deal Garage is an example of this. On the other hand, Cash Garage would be a good name, providing no business were done on credit.

His Users Were Boosters

A butcher in a certain small town dropped in to see one of the dealers about a delivery car. The only question that seemed to worry him was whether the vehicle was practical for his business. The dealer did not try to convince him immediately, but merely said:

"Do you know Smith, the baker?"

"Sure, I know him. He lives right next door to me."

"Ask him about this car; he has two of them."

"Do you know the grocer down on the corner?"

"Yes."

"See what he has to say. He's had one for two years."

In a couple of days the butcher came back and bought a car.

The dealer explained to the Motor World Road Man that the reason he used this method was to thoroughly convince the prospect. If the dealer had told him all the nice things he could

think of about the car, the butcher might not have believed him, but he would believe these owners. He added, with a sly wink, that these owners would give the car a better recommendation than he could afford to give because every man likes to brag about his own car.

HALVED STORAGE TRIPLED BUSINESS

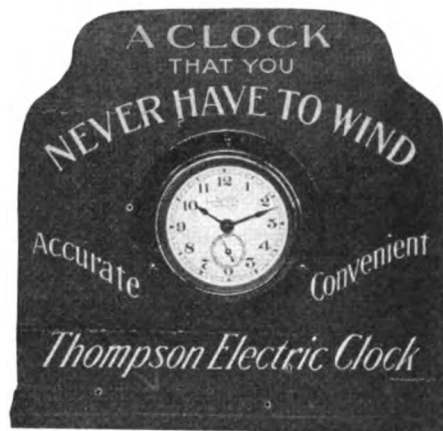
Hartford Garage Eliminated Graft and Won Big Business

The Hartford Garage Co., Hartford, Conn., has recently adopted a plan which has been quite successful in increasing its patronage. For a long time it has been the practice of certain Hartford garagemen to allow the doormen at some of the larger hotels a certain percentage for directing the hotel patrons to their garages. For this service the doormen received from 25 to 50 cents for each car. This was charged against the storage rate, which averaged \$1 per night.

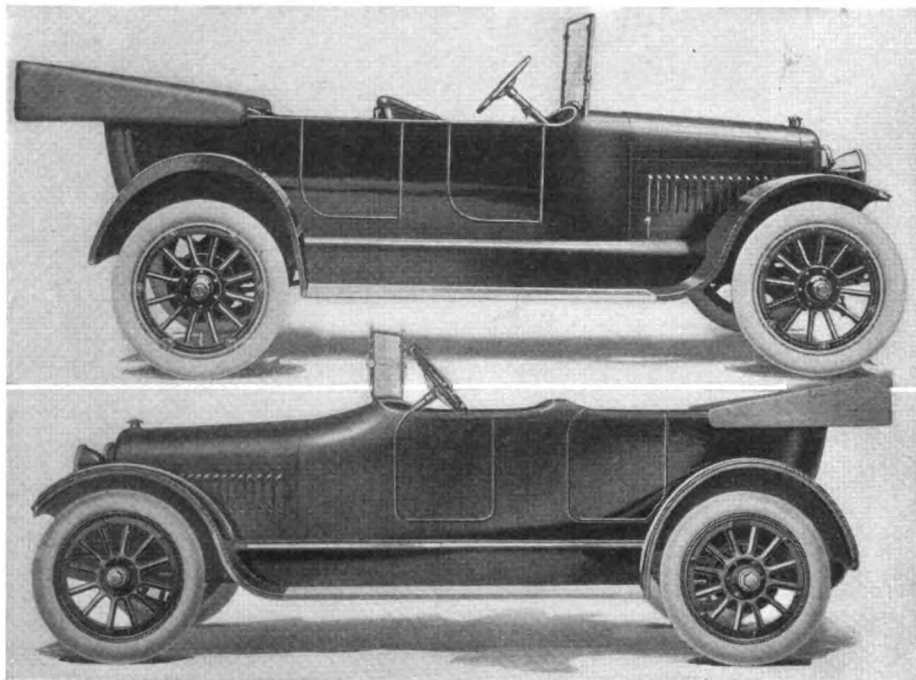
In full realization of the unfairness of this to car owners, the Hartford Garage Co. has eliminated the payment of fees to hotel employees and at the same time reduced the cost of transient storage to hotel guests to 50 cents per night. Since the plan was adopted the transient business of the garage has actually been trebled.

DISPLAY HELPS FOR THE DEALER

There are many devices which are supplied by accessory manufacturers to their dealers for the better display of merchandise. One is illustrated herewith. Manufacturers who supply these devices are urged to forward photographs or sketches of them.



A clock always catches a person's eye and nearly everyone wants a clock at some time or another; it is one accessory that will almost sell itself. But it must be properly displayed. The Thompson Electric Clock Co., Memphis, Tenn., is supplying this stand to its dealers. It is a handsome, strictly useful counter display.



The new Pilots with 5-passenger bodies. Upper—The eight, with straight, simple lines. Lower—The six with double-cowl body, which has been attractively worked out

Pilot Adds Six at \$1100 and Eight at \$1785

Two Sixes Carried Over and Prices Reduced from \$200 to \$485 Each—New Six Carries Out on Smaller Scale Ideas Embodied in Older Models

THE Pilot Motor Car Co., Richmond, Ind., has entered the medium priced field with a new six and a new eight which strongly resemble the higher priced Pilots of past seasons, but due to refinements of design and manufacture are sold at lower prices. The new six is known as the 6-45 and is furnished as a double cowed five-passenger touring car or a four-passenger roadster with a rather unusual seating arrangement. Both of these sell at \$1,100. The eight, also new, is known as the 8-55, and appears with more conventional two- and five-passenger bodies at \$1,785.

In addition to the two new ones, two chassis are continued, the 6-75, at \$2,485 for the seven-passenger and \$2,400 for the two- and five-passenger models, \$400 being lopped off the price of the seven-passenger car and \$485 from the price of the two- and five-passenger. The 6-55 of the 1915 line is continued with refinements at \$1,685 in five- and two-passenger form. This is a reduction of \$200 as compared with the 1915 price.

The 6-45 is built along the same sturdy lines as the larger Pilots and is simply a rather smaller Pilot car. The motor is a departure from previous Pilot practice in that it has L-head instead of T-head cylinders. The cylinders are 3 x 5, block cast with enclosed valves and removable heads. Clutch and gearset are in unit

with it. Lubrication is by a combination of splash and force feed, in which a pressure pump forces oil through small ducts direct to each main bearing. In the lower half of the crankcase are overflow oil basins, and in the bottom of the cams are drilled holes of such size as to admit a predetermined quantity of oil. Cooling is by honeycomb radiator, pressed-steel fan and centrifugal pump.

Ignition, lighting and starting are by the Delco system, and fuel is fed by the Stewart vacuum system from a tank at the rear. Power transmission is of standard design, embracing a three-speed gearset and floating axle.

The wheelbase is 119 inches; 52-inch cantilever rear springs are employed. In

body design the new Pilots are exponents of the double cowl idea, the five-passenger car having the center cowl type of streamline body, the lines sweeping back from the slightly ovaled radiator to the dash cowl and then with the same curves to the center cowl and the broad back. A side view shows nothing of the back of the front seat except the center cowl.

A rather unusual seating arrangement is used in the four-passenger roadster, styled the "Get Chummy" model. The front seats are individual with an aisle

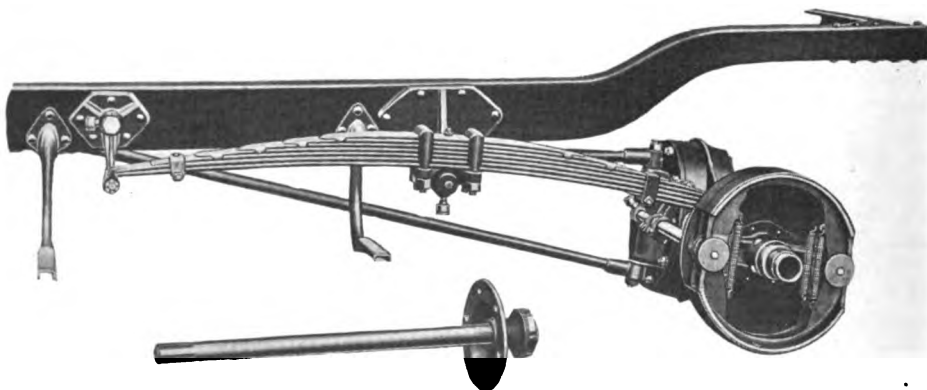
SPECIFICATIONS OF NEW PILOTS

Price—	Eight	Six
Touring	\$1,785	\$1,100
Roadster	1,785	1,100
Color	Brewster green	Brewster green
Number of cylinders.....	8	6
Shape	L-head	L-head
How cast	2 block	Block
Bore	3	3
Stroke	5½	5
S. A. E. rating.....	28.8	21.6
Ignition	Delco	Delco
Starting-lighting	Delco	Delco
Clutch	Cone	Cone
Gearset	3-speed	3-speed
Wheelbase	126	119
Tires	—	32 x 4
Wheels	Wood	Wood
Type rear axle.....	Floating	Floating

between them; the rear seat accommodates comfortably two people. The rear seat is built in a graceful curve and with the top down, if desired, pulls forward and fastens to the back of the front seat, where it is completely concealed and protected.

The 8-55 model has a motor of the conventional V-type cast in two blocks. Cylinders are 3 x 5½ and the crankcase is of aluminum alloy. The valves are on the inside and are operated by a single camshaft. Easy access to the camshaft and rocker arms is provided by a removable crankcase top between the cylinder blocks. The valve mechanism is completely enclosed and the valve stems and push rods work in separate removable bushings.

The removable plates which cover the valve stems are provided with openings to relieve crankcase pressure, and all the push rods, valve stems and springs



The long cantilever rear springs employed in the eight

are lubricated by splash from the crankcase. Cooling is by thermo-syphon with honeycomb radiator. Oiling is by pressure feed to all bearings through a drilled crankshaft. Timing gears also are fed from the pressure system, but pistons and cylinders are lubricated by splash.

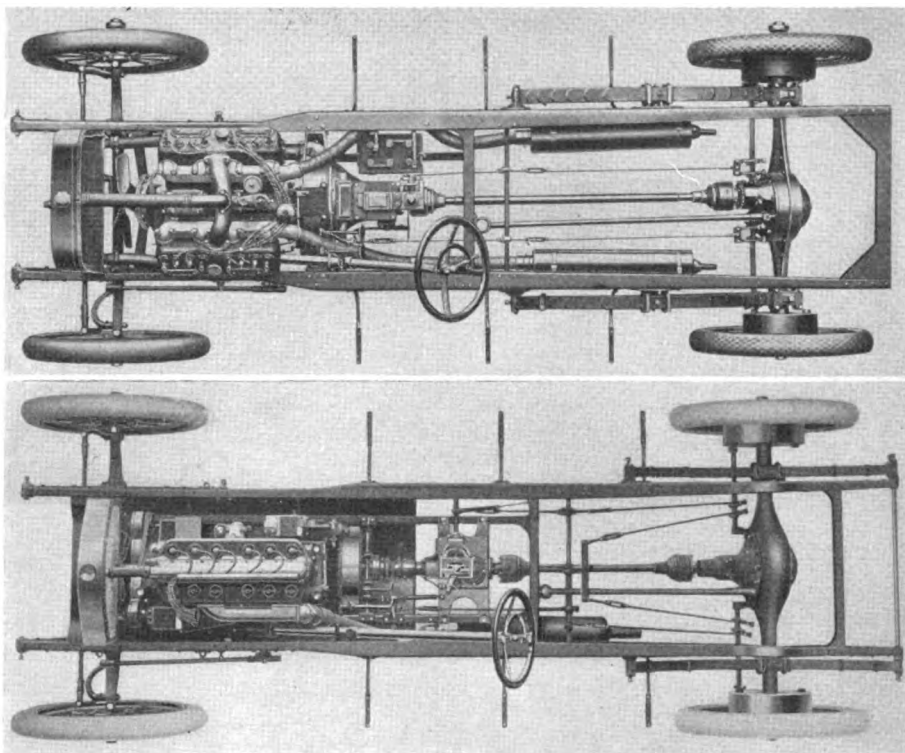
The wheelbase in the roadster and touring car is 126 inches. Bodies are streamline; auxiliary seats and oversize tires in the touring car make a seven-passenger model at a slight additional cost. In other respects the eight is the same as the six. The standard finish of all models is dark Brewster green with black metal parts, but individual ideas as to color and finish are followed when such request is made.

Topeka State Fair Show Gratifying to Dealers

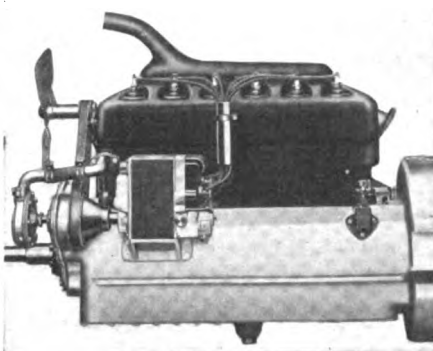
**Put Up Their Own Exhibition Hall
With Canvas Walls and Concrete
Floor—Will Enlarge Build-
ing for Next Year**

TOPEKA, September 25—Motor car and supply dealers of Topeka probably got more good out of the state fair than any other group of exhibitors—and their exhibit had been swiftly arranged for. They had a building of their own and it likely will be enlarged.

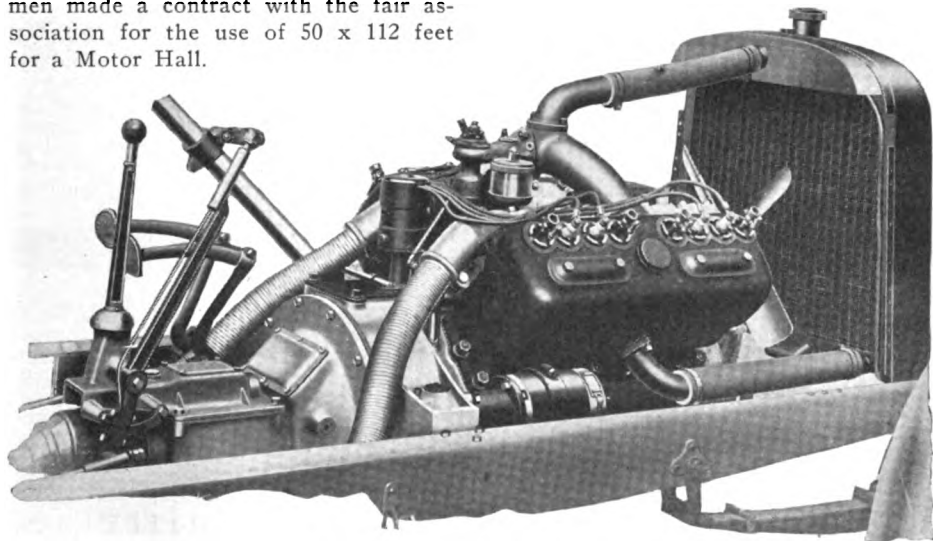
The dealers did not want to take cars to the free state fair and exhibit them in a tent. E. B. Kellam worked up a plan for the erection of a special motor car building. He and H. H. Southwick, of the Southwick Auto Supply Co., and J. R. Cowdrey, of the Cadillac Sales Co., got enough subscriptions to pay for a building. The county owns the state fair grounds; the fair association leases from the county, and the automobile men made a contract with the fair association for the use of 50 x 112 feet for a Motor Hall.



Upper—Pilot eight chassis. Note the double exhaust system with two separate mufflers for each block of cylinders. Lower—The new small six chassis is built along the lines of the larger sizes



This shows the clean appearance of the motor-generator side of the six



Flexible metal pipes are used in the eight to carry the exhaust gases from the cylinder blocks to the mufflers. Carbureter and ignition apparatus are accessible

On this space a substantial concrete and brick bed was laid, rising about 3 feet from the level of the ground and reached by steps. Posts were set at intervals and a roof guaranteed for 15 years raised over this floor. Canvas curtains were installed for walls. The experience of state fair week this year, during which there was a lot of rain, was that canvas walls are adequate. And they can be raised for clear sweep for breeze during fair days when the sun shines hotly.

In this Motor Hall were 14 spaces for exhibition of cars and equipment, each space 16 x 18 feet and capable of containing two cars. There was a 12½-foot aisle. The building was filled for the free state fair that opened September 13.

The following cars and companies were represented: Chalmers and Dodge, W. H. Imes & Co.; G. M. C. and Vim, Rehkopf Bros.; Chandler, Regal, Lozier, Independent Auto Co.; Cole, White, Motor Service Co.; Overland, Oakland, J. R. Johnson; Paige, the Palace Auto Co.; Cadillac, Studebaker, West Motor Car Co.; Topeka Oil Co.; Southwick Auto Supply Co.; Franklin, E. B. Kellam; Velie, North Star Motor Car Co., R. D. Johnson.

The building had not been equipped with many electric lights, but this had to be remedied the first night of the fair. Crowds were in the building all the time. And directly plans are being made to build another the same size on the adjoining lot, in anticipation of the expected increase in demand for space.

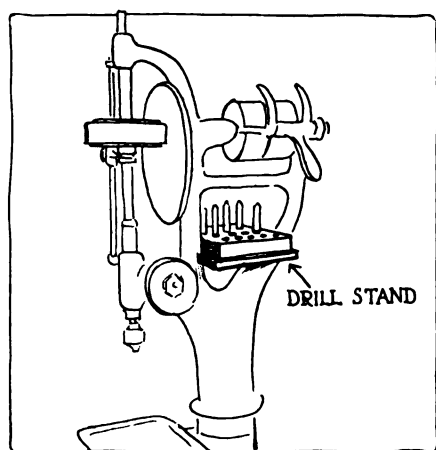
REPAIRSHOP SHORT-CUTS

From the **MOTOR WORLD** *Road Man*

Drills Always Handy

(No. 243)

A drill stand right on the drill press itself has much to recommend it; it is not only a convenience but a time saver. It is especially adaptable to the small shop where there is no tool room for such tools. The drill stand is simply a block of wood with holes bored in it to receive the drills. It should measure about 5 x 8 x 1 inches and is mounted on an angle iron which is bolted to the drill press frame.—A. E. Cassel, foreman, Ashtabula Garage, Ashtabula, O.



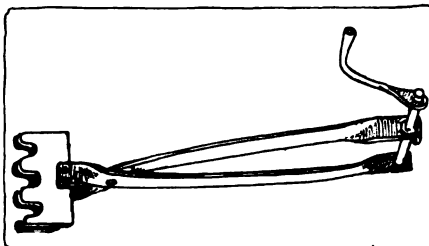
(No. 243)

Drill stand in drill-press frame

Flanging Copper Pipe

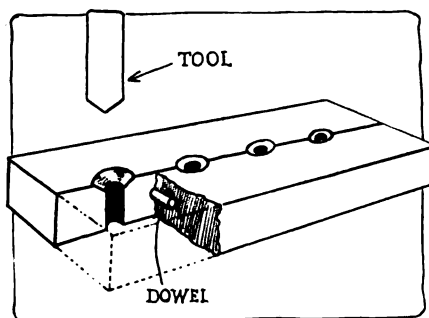
(No. 245)

Flanging copper pipe for making connections can be very simply done by means of the die shown. It consists of two pieces of steel drilled to accommodate the various sizes of tubing, such as 1/4-, 5/16-, 3/8- and 7/16-inch. These holes are then counterbored the size and shape of the flange desired. To flange a piece of tubing it is placed between the two members in the correct sized hole and clamped in a vise. Then the tool shown at A, with the aid of a hammer, is used to form the flange. Dowel pins are used to locate the two halves of the die. Care should be taken not to hammer too much, as the tool may be driven through the copper.—Harmon Wirebaugh, A. H. Wilson Motor Car Co., Canton, O.



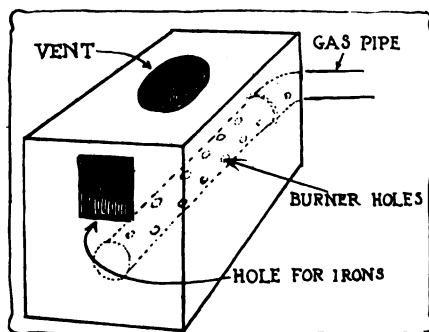
(No. 244)

Transmission spring inserting tool



(No. 245)

Tools for flanging copper pipe



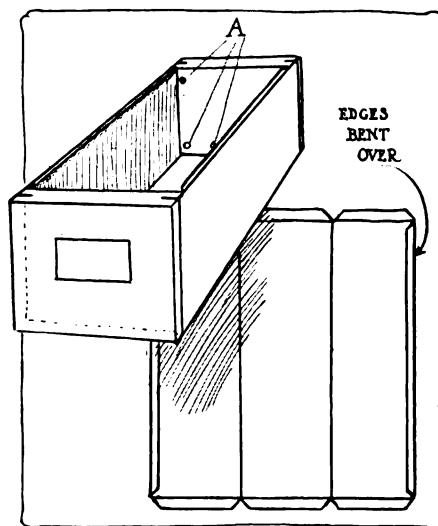
(No. 246)

Gas heater for soldering irons

Soldering Iron Furnace

(No. 246)

For heating soldering irons by gas, a sheet steel furnace is advisable and can be made at slight cost. It consists of a box about 5 x 8 x 12 inches, with a large square hole in the front to allow the insertion of the irons and a vent in the top to give escape to the products of combustion. The burner is made from a piece of 3/4-inch gas pipe drilled with about two dozen 1/16-inch holes.—A. E. Cassel, foreman, Ashtabula Garage, Ashtabula, O.



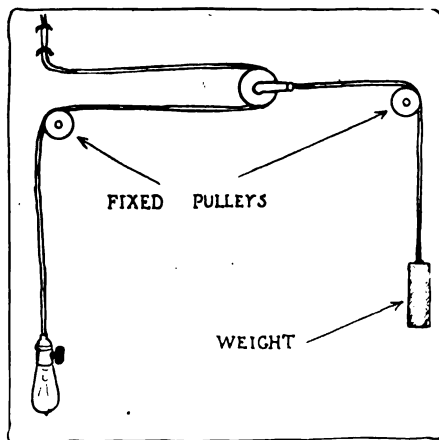
(No. 248)

Metal and wood drawers

Drop Light Adjustment

(No. 247)

A drop light which may be adjusted to any height is not only a convenience in doing repair work but it removes the possibility of damaging it when it is lying on the floor. Two fixed pulleys, a movable one, a counterweight and a light wire cable are the materials required. How the apparatus is rigged up is shown and requires no explanation.—A. E. Cassel, Ashtabula Garage, Ashtabula, O.



(No. 247)

Drop light adjusting rigging

Drawers for Small Parts

(No. 248)

Drawers for housing small parts can very conveniently be made out of a clever combination of wood and galvanized sheet iron; wood for the ends

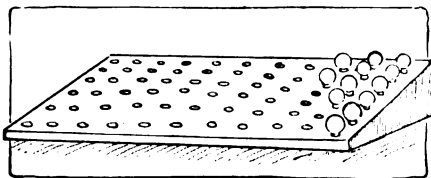
Personality

Page 5

and sheet iron, in a single piece, for the sides and bottom. The end pieces are about $\frac{5}{8}$ inch thick and with any height and breadth to suit. A slit $\frac{1}{4}$ inch deep is sawed in the sides and bottom of each block and these receive the bent-over edges of the sheet metal part, which has been bent to fit, after being cut according to the pattern shown. When the drawer is assembled nails are driven at A to hold it together.—A. E. Cassel, foreman, Ashtabula Garage, Ashtabula, O.

Line Shaft Air Pump (No. 250)

Extreme simplicity marks this air compressor, which is mounted on the line shafting and is driven directly by it through a large eccentric which works



(No. 249)
Stock rack for carrying lamp bulbs

the connecting rod. The cylinder casting is attached to the shafting by two steel rods which are connected to the shafting through two large bearings. The cylinder is prevented from rotating by a brace which runs diagonally to the ceiling. Small poppet valves are used, and both are automatic. The piston clearance is negligible and pressure is regulated by a simple automatic device which holds the intake valve open when a pressure of 120 pounds is reached.—Orville Hauser, Chillicothe, O.

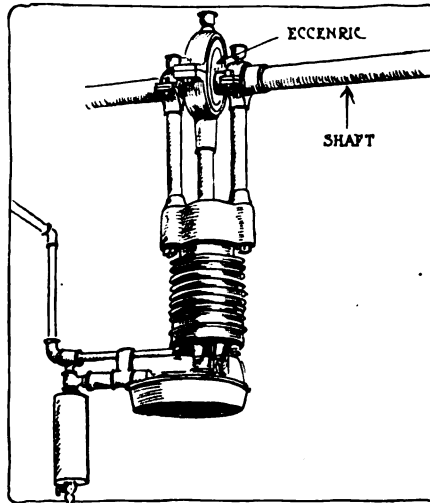
[By increasing the clearance, the automatic pressure regulator is unnecessary; that is, with a certain space between piston and cylinder head it would be impossible to raise the pressure beyond 120 pounds because at this pressure the amount of air in the clearance space at the top of the piston stroke would be just sufficient so that on the suction stroke following this air could only be expanded to atmospheric pressure. Unless the air on the suction stroke is expanded below atmospheric pressure no suction takes place, no air is drawn in, and therefore no air can be delivered as long as this state of affairs lasts.—Editor.]

Bulb Stock Board (No. 249)

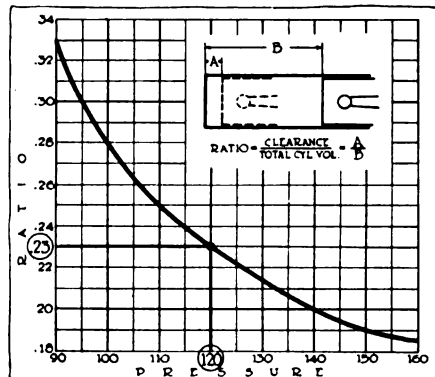
An ideal way to carry lamp bulbs in stock is on a board about $1\frac{1}{2}$ x 3 feet. the bases of the bulbs being inserted in holes in the board which is placed at such an angle that all the bulbs can easily be seen at a glance. The advantages of this method of storing the bulbs is that there is not the same danger of breakage through frequent handling, the bulbs are more accessible and the stock on hand can be seen at a glance.—Wm. Sickinger, Morgan & Williams, Warren, O.

Magneto Testing Drive (No. 252)

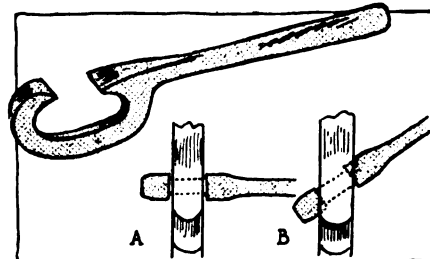
In testing magnetos it is often desirable to drive them at different rates



(No. 250)
Air pump driven from line shaft



Air pump compression curve



(No. 251)
An easily made spring leaf spreader

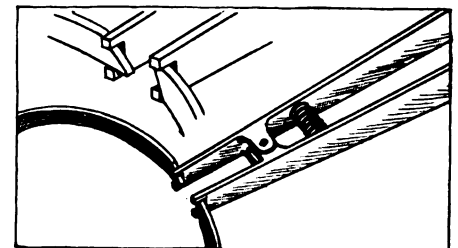
of speed. One way of doing this is by a variable speed electric motor, but if the motor is a constant speed design different speeds may be obtained by fitting two friction disks. The large disk is attached to the armature shaft and the smaller one is slidably mounted on a cross shaft.—J. O. Steele, Fourth-Chestnut Auto Repair Co., Columbus, O.

Spring Leaf Spreader (No. 251)

The spring leaf spreader shown in the accompanying illustration is as simple as it is possible to make a tool, having no moving parts and being made in a single piece. Any blacksmith can forge one from a piece of steel. Tempering the working edges will improve the device if it is to be used much, though for occasional use tempering hardly is necessary. The edges should be sufficiently far apart to go over the spring, as at A, when a twist will force the edges between the leaves, as shown at B.

Piston Ring Expander (No. 253)

A good tool for expanding rings so that they may easily be slipped over the pistons is made as shown. The ends of the tool are cut so that they will fit

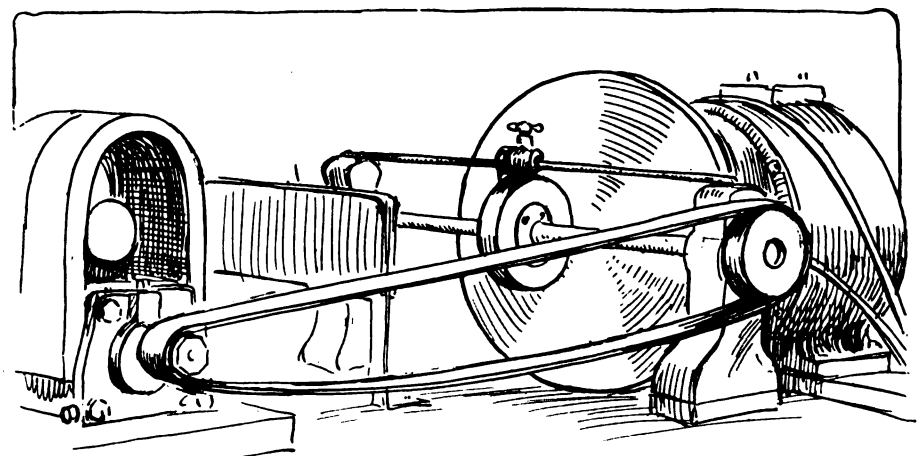


(No. 253)
Piston ring expanding tool

snugly over the ends of a diagonally split ring. A small coil spring is used to hold the ends together.—Harmon Wirebaugh, A. H. Wilson M. C. Co., Canton, O.

Personality

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(No. 252)
Friction disk variable speed gear for driving magnetos when testing

Dealer's Legal Status

Cars Owned by Foreign Corporation, Firm or Co-partnership Are Not Exempt from Registration in Delaware—Private Owners Only Exempt

By George F. Kaiser

Editor Motor World:

On page 14 of your September 15 issue I have read what you have printed regarding Delaware State Laws, and wish to advise you that your statement is incorrect, as the signer of the letter to you is correct in his remark.

You cannot drive in the State of Delaware with private tags taken out in a foreign state under the name of a corporation, co-partnership or firm. However, you can use dealers' tags from foreign states in Delaware if accompanied with a driver's license.

If you will look up this law you will find that the majority of laws read exactly the same as the Delaware law on this subject, but the Delaware officials see fit to enforce their statute while the other states do not.

Philadelphia. (Signed) J. H. R.

The Delaware Law on this point reads:

"The provisions of said last mentioned sections relative to license and registration shall not apply to a motor vehicle owned by a non-resident of this state, provided that the owner thereof shall have complied with the provisions of the law of the foreign country, state, territory or Federal District of his residence relative to registration of motor vehicles or motorcycles and the display of number tags thereon.

Like Exemption Necessary

"The provisions of this section, however, shall be operative as to a motor vehicle or motorcycle owned by a non-resident of this state only to the extent that under the laws of the foreign country, state, territory or Federal District of his residence, like exemptions and privileges are granted to motor vehicles or motorcycles duly registered under the laws of, and owned by, residents of this state.

"A motor vehicle or a motorcycle owned by a foreign corporation, firm or co-partnership and operated within this state shall not be exempt from registration and the operator of said motor vehicle shall be licensed as hereinafter provided for operators of motor vehicles, provided that this shall not apply to a motor vehicle owned by an

Delaware Non-Reciprocal Law May Be Repealed

WILMINGTON, DEL., September 24—An enactment of the last Legislature affecting motorists of other states is proving so obnoxious that the police of Wilmington have stopped enforcing it.

Originally the Delaware law was reciprocal, but because some business concerns in Pennsylvania were operating trucks in Delaware without paying a Delaware license the Legislature amended the law to prohibit motor vehicles owned by non-resident corporations being operated in Delaware without a Delaware license. As little was known of this change outside of the state, non-resident drivers were constantly falling into the trap.

The wholesale arrests made caused such a protest that now they take a violator to a license agent and if he takes out a Delaware license he is allowed to go.

It is probable the next Legislature will repeal the law, which does not apply to cars owned by individuals, who can operate in Delaware with a license of their own state.

individual, firm, or corporation which is registered as a dealer or manufacturer in another state which state grants exemption to a dealer or manufacturer of this state."

The New York State Motor Vehicle Law providing for the exemption of non-resident owners reads:

"The provisions of the foregoing sections relative to registration and display of registration numbers shall not apply to a motor vehicle owned by a non-resident of this state, other than a foreign corporation doing business in this state, provided that the owner thereof shall have complied with the provisions of the law of the foreign country, state, territory or federal district of his residence relative to registration of motor vehicles and the display of registration numbers thereon, and shall conspicuously display his

registration numbers as required hereby. The provisions of this section, however, shall be operative as to a motor vehicle owned by a non-resident of this state only to the extent that under the laws of the foreign country, state, territory or federal district of his residence like exemption and privileges are granted to motor vehicles duly registered under the laws of and owned by residents of this state."

The Pennsylvania Automobile Law and the laws of a great many other states are very similar to the New York law on this point.

Under the Delaware law a New York man owning a pleasure vehicle would not have to procure a special license to drive his car through that state. If, however, the car were owned by a foreign corporation, firm or co-partnership, the person driving it would have to comply with the Delaware law unless the vehicle were registered as a "dealer's" or "manufacturer's" car in his home state and Delaware dealers or manufacturers were exempt under the laws of that state.

Law Often Violated

As states like New York and Pennsylvania only exempt Delaware cars to the like extent that New York and Pennsylvania cars are exempt in Delaware, salesmen driving under Delaware license numbers in New York City or in Philadelphia are violating the law and subject to arrest if the fact that they are so operating their cars be brought to the attention of the police officials.

The provision of the Delaware law which the foregoing letter calls attention to is a provision that is oftentimes overlooked and in the various digests and abstracts of the State Motor Laws under the head "Non-residents," Delaware is generally set down as a state which exempts non-residents, provided their home state grants reciprocity.

Indianapolis, Ind., Aug. 17, 1915.
Editor Motor World:

Please accept thanks for your prompt answer to our inquiry of the 12th to the Motor World. We are very glad to have accurate information on these points.

Fisher Automobile Co.,

(Signed) F. Ellis Hunter.

Lima, O., Sept. 1, 1915.
Editor Motor World:

We are in receipt of yours of the 26th, attaching your opinion in reply to our inquiry sent to the Motor World in reference to consigned stock to dealers, and we wish to thank you very much for having gone into this matter so thoroughly for us.

The Garford Motor Truck Co.,

(Signed) M. A. McCullough,

Service Director.



ACCESSORIES & SUPPLIES :

MARTELL ALIGNING REAMER

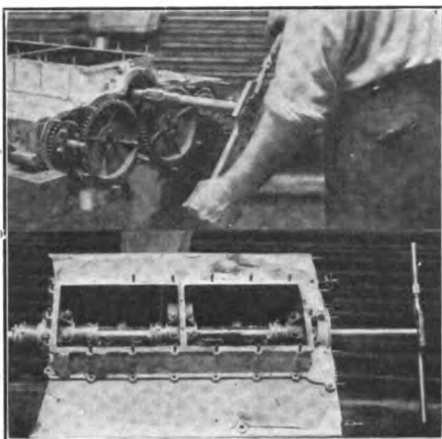
Harding Mfg. Co., 40 Court street, Boston. PRICE, standard set, \$175; small set, \$120.

This tool is designed to save time in finishing crankshaft bearings by reaming them out instead of scraping them. The reamer shaft is supported by eccentric bushings in a tapered sleeve having fine threads on the taper; the sleeves are screwed into the ends of the holes to be reamed. Flanges on the eccentric bushings are graduated in thousandths of an inch, so that the tool can be set with accuracy. It is set up and the reamer run through the bearings successively, the bushings in the bearings being removed as the reamer reaches them. As the forward travel of the reamer is necessarily in a straight line, the finished bearings will also be in correct alignment. The makers state that a smooth, burnished surface is left, which has longer life than a hand-scraped surface. Connecting rod bearings can be reamed by using the short shaft supplied for the purpose. The standard outfit consists of one long aligning shaft, one short aligning shaft, two reamer heads, six adjustable bushings, six sets of blades with six blades to the set, wrenches and crankshaft gear bushings. The reamers in the standard set will finish bearings from $1\frac{1}{8}$ inches to $2\frac{1}{4}$ inches. A smaller set is made for bearings from $1\frac{1}{4}$ inches to $1\frac{3}{8}$ inches, this having one aligning shaft, one reamer head, five supporting bushings, three sets of blades and one short shaft, together with wrenches.

ROBBINS & MYERS OUTFITS

The Robbins & Myers Co., Springfield, O. PRICES, for 110 volts alternating operating current, output 10 amperes, 8 volts, \$42; 5 amperes, 30 volts, \$53; 10 amperes, 15 volts, \$53; 10 amperes, 30 volts, \$95. For 115-volt direct operating current, output 10 amperes, 8 volts, \$41; 5 amperes, 30 volts, \$56; 10 amperes, 30 volts, \$77.75; 10 amperes, 15 volts, \$46.

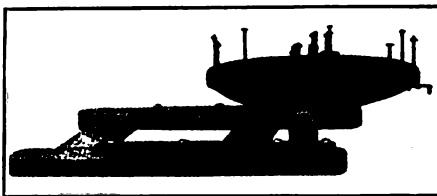
Briefly, a small motor, driven by the operating current taken from the supply mains, drives a generator, which produces the direct current required for charging storage batteries for starting-lighting systems; different types are made for alternating and direct supply currents, and for various standard voltages. Only a few are given in the foregoing list. The motor and generator



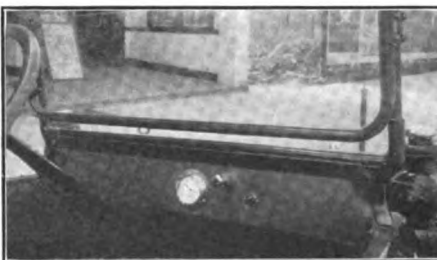
Two views of Martell aligning reamer



Robbins & Myers motor-generator



Martin's fifth wheel for trailer



Whetstone's instrument board for Fords

are combined in one machine, the appearance being that of a cylindrical-bodied motor or generator of the ordinary type. The two smaller sizes are fitted with oak bases and are sufficiently

light so that they can be placed on the runningboard of the car while delivering a charge; the larger machines are designed for public garage service and are intended to be permanently located. The makers state that all the outfits will deliver voltages 10 per cent higher than the rated capacity, without injury.

MARTIN'S FIFTH-WHEEL

C. H. Martin, 293 Bridge street, Springfield, Mass. PRICE, 18-inch, for Fords and other light cars, \$25; 32-inch, for 1- to 3-ton trucks, \$80; 36-inch, for 4- to 5-ton trucks, \$90.

One half of a specially designed fifth-wheel is mounted under the front end of a two-wheeled trailer and the other half on the rear of the frame of the car or truck that is to haul it; the lower circle of the fifth-wheel is carried on transverse trunnions so that longitudinal inequalities of the road can cause no straining. The springs take care of twisting tendencies. The makers state that a Ford car will handle a 1,500-pound load on a semi-trailer, the trailer wheels being so placed that the weight on the rear wheels of the car is normal and the trailer wheels carry the rest.

COWL BOARD FOR FORDS

J. H. Whetstone & Co., Lapeer, Mich. PRICE, board only, \$1; with clock, lamp and switch, \$4.05.

An instrument board is formed from heavy sheet steel, reinforced, and fits at the rear of the cowl of 1915 and 1916 Fords. It is held in place by two bolts and the makers state that it can be attached in 10 minutes. The bolts used are already on the car and no drilling is required. The clock, lamp and switch furnished with the complete equipment are finished in nickel; the board is finished in black enamel.

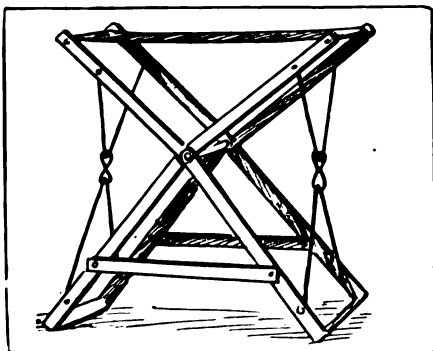
DEFIANCE STEEL STOOL

Defiance Welding Co., Defiance, O. PRICE, 75 cents.

This is a folding steel-framed camp stool which, opened, measures 15 inches high and folds flat into a space $7\frac{1}{2}$ x 10.

Personality

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Defiance folding steel stool

The seat is of 10-ounce army duck and the weight 2 pounds. The stools are suitable either for use as extra seats in the car or for picnic seats.

WARNER ELECTRIC CLOCK

Stewart-Warner Speedometer Corp., Chicago. PRICE, \$15.

A clock with a seven-jeweled movement is made electrically self-winding, current being supplied by one dry cell or, if desired, by the electric lighting system of the car. When a dry cell is used it will keep the clock going for six months and can be changed without handling any wires, the cell making its own connections when pushed into place. The dial is 3 inches in diameter and the figures, which are white on a black ground, are etched in metal. Setting and regulating can be effected without removing the clock from its place. Two models are made, one being of the flush type for dashboard installation and the other for mounting anywhere on the car, but not flush. Both sell for the same price.

U. W. PULL OUT LINE

Upson-Walton Co., 1310 West 11th street, Cleveland. PRICE, \$3.50. JOBBERS, \$2.



Warner self-winding electric clock

A steel wire cable with a hook spliced in each end is fitted with two manila rope slings for making fast to axles so that the finish will not be marred and also to give flexibility when towing. The total length of the rope, including the slings in towing position, is 25 feet.

MICHENER'S VALVE GRINDER

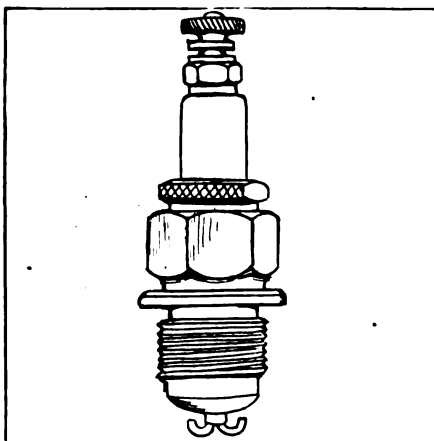
E. S. Michener, New Castle, Pa. PRICE, \$1.50; dealers, \$13.20 per dozen.

This tool consists of a steel shank with a spiral twist on which works an



Michener oscillating valve grinder

aluminum handle; moving the handle up and down causes the shank to turn first in one direction and then the other. At the top is a ball handle, of wood, with an anti-friction bearing, and at the other



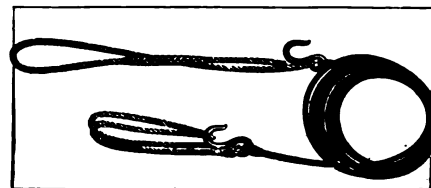
3-X double point spark plug

end a blade like that of a screw driver to enter the slot in the valve head.

RIDEOVER SPRING LUBRICATOR

Avery Portable Lt. Co., National avenue, Milwaukee. PRICE, \$1 per box of 60. DEALERS, lots of 12 boxes, 50 per cent.

Thin strips of graphite compound are made to be slipped between the leaves of the springs after being slightly separated with a spring spreader; it is



U. W. steel towing line and slings

unnecessary to take the springs apart to put them in. When in place the graphite spreads and lubricates the whole contact surface. The compound is of such a nature that it will stay in place for a long time, keeping the springs well lubricated. The strips are easily handled when inserting and do not disintegrate in the hands.

AFFA SPINDLE ADJUSTER

W. S. Graffam, Northampton, Mass. PRICE, 50 cents per pair; dealers, \$3.24 per dozen pairs.

A strong spring of flat steel is made to fit inside the steering rod yoke, pressing against the spindle arm. The pressure automatically takes up wear and prevents rattle from looseness.

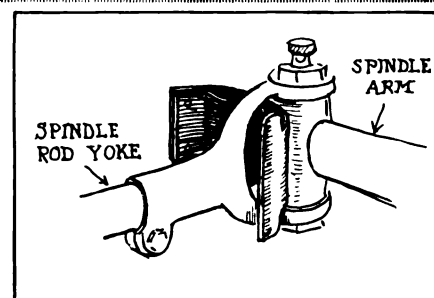
3-X SPARK PLUGS

3-X Spark Plug Co., 2129 Michigan avenue, Chicago. PRICE, any size, \$1. DEALERS, lots of 12, 55 cents each; 50, 50 cents; 100, 45 cents; 250, 40 cents.

A heavy plug with steel shell and packing nut and blue porcelain insulation. The central electrode is split and turned back, forming two sparking points from which the current jumps to the surface of the end of the shell. The opening into the chamber back of the points is a comparatively small slot. The terminal at the top is of heavy brass and will take either spring clips or plain terminal tips. All regular sizes are made and also special types for all motors which require special plugs. The makers state that they are prepared to furnish plugs that will give the best results in motors which require plugs that differ from ordinary dimensions and construction.

Personality

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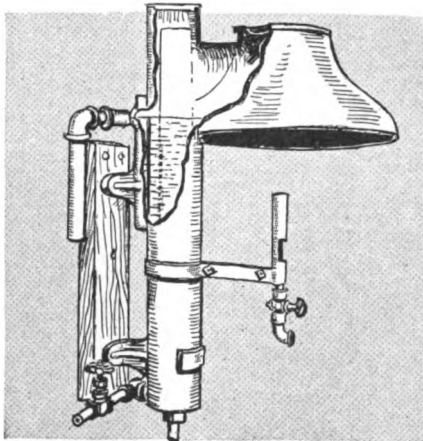


Affa steering spindle adjuster

PEERLESS WATER STILLS

Sparta Mfg. Co., 111 South Hill street, South Bend, Ind. PRICES, 2 to 4 quarts per hour, \$15; 4 to 6 quarts, \$20; 8 to 12 quarts, \$40.

A gas burner heats water and turns it into steam, which is condensed in a coil which passes through the cold water supply from the mains. The makers state that the cost of distilled water, with gas at \$1 per thousand feet, is not more than 2 cents per gallon. The still is said to be so substantial that it will last indefinitely with proper care. No attention is required while in operation.



Peerless water distilling plant



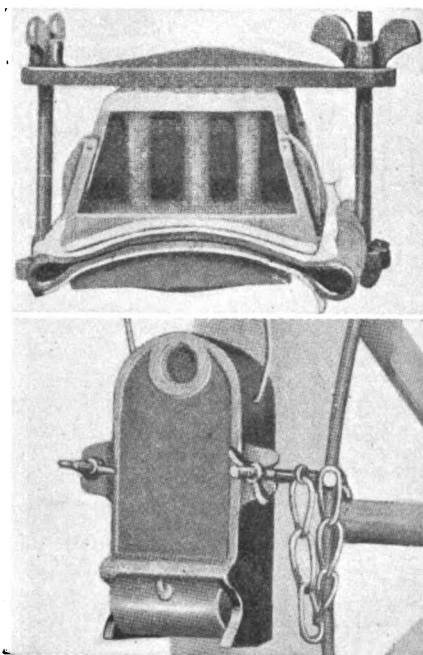
Whitaker's bag for cooling water

Burners can be supplied for gasoline or kerosene at an additional cost of \$5.

WORCESTER VULCANIZER

Worcester Mfg. Co., Worcester, Mass. PRICE, \$3.50.

Instead of having a reservoir of free fuel this vulcanizer holds its fuel in a wick, so that no matter what position the instrument is in there can be no spilling. The device is used in the same way as other gasoline vulcanizers, being allowed to burn until the fuel is exhausted. Both tube and casing repairs can be made. The vulcanizer weighs 4½ pounds.

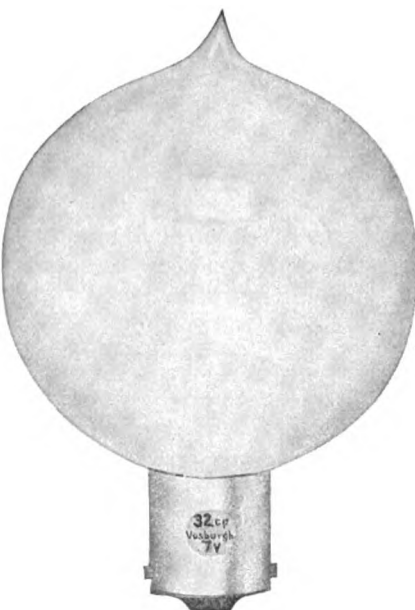


Worcester wick-feed vulcanizer

WHITAKER'S WATER BAGS

Whitaker Mfg. Co., 511 West Monroe street, Chicago. PRICES, open top, ½-gallon, 95 cents; 1 gallon, \$1; 2½ gallons, \$1.50; 3½ gallons, \$2; 5 gallons, \$2.50. Closed top, ½-gallon, 85 cents; 1 gallon, 90 cents; 2½ gallons, \$1.35; 3½ gallons, \$1.85; 5 gallons, \$2.25.

These water bags are woven of a special flax, and when filled allow a little moisture to exude, the evaporation of which keep the water within cool despite hot weather. The tops are closed by a steel wire device which permits the bag to be opened and turned inside



No-glare opalescent nitrogen lamp

out for cleaning and drying. The evaporation principle involved in these bags is one commonly used in hot countries for keeping water cool.

SPECIAL GEARS FOR FORDS

Detroit Radiator & Specialty Co., Detroit. PRICE, \$15; garagemen, 25 per cent; Ford dealers, 30 per cent.

To permit an increase of speed, where conditions are favorable, or to lower the gear ratio for exceptionally hilly country, Fords can be equipped with special gears which are supplied in one ratio lower than the standard of 3.63-1 and three higher. The low ratio is 4-1 and the higher ratios 2¾-1, 2 4/7-1 and 3-1. The highest, or 2 4/7-1 gear, is for racing purposes, the 2¾-1 for fast roadsters and the 3-1 for general driving. Gears



Gears for changing Ford ratios

are of nickel steel, hardened and sand blasted. All except the racing type are interchangeable with the regular Ford gears; a little machining is required for the racing gears, instructions being sent with the set of gears for doing the necessary work.

NO-GLARE NITROGEN BULBS

Vosburg Miniature Lamp Co., West Orange, N. J. PRICE, \$1.

Opalescent nitrogen-filled bulbs are manufactured in 32 candlepower and voltages to suit the various standard systems in use. The makers state that the lamp has been adopted by the states of New Jersey and Maryland and that it conforms with the anti-glare regulations of other states. Long life and high efficiency are claimed.

GROBET MAGNETO FILE

Montgomery & Co., 105-7 Fulton street, New York. PRICE, 15 cents each.

A file is designed especially to smooth the contact points of magnetos, coils and other ignition apparatus; it makes a smooth cut, does not rip or roughen the metal and does its work without waste of platinum. Total length, 6 inches; file surface, 3 inches. The end of the file has a screw driver point. The handle is integral and is round.



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Personality

The TWENTY-SECOND instalment of
Motor World's Campaign for Greater Profits.

ON page 5 of this week's issue of Motor World is told the story of a man who has woven his personality into his business and on the weaving has depended much of his success. This man has always sold accessories and supplies in connection with his garage business but he realized early, as others must realize, that success in his business depended quite as much on giving real satisfaction to his customers as it does in having a complete stock.

Petry, of Hudson, N. Y., aims to make a friend of every customer, and how well he succeeds is made plain by the volume of business he does. He is always out and about his place of business. He does not stay cooped up in a little office, pulling the strings that make automatons do his bidding. He is a real executive for the reason that he not only has the faculty of delegating work to others and seeing that it is done properly, but he is an inspiration to his workmen. His customers can always find him when they want him; he rights what they consider wrongs on the spot. In short, he makes friends of his customers and his success is worthy of close study.

Ideas

TOO often is heard the excuse, "I cannot find time to read the trade papers." Those men who give utterance to such an excuse for their own ignorance not infrequently are the ones whose businesses are

stagnating for want of fresh ideas and new business methods.

The trade paper of today is a paper for the trade. Its contents are prepared by a corps of trained experts, whose business it is to collect and sift all the good and all the bad of the industry, to weed out the bad and to serve to its readers the good, the tried. In short, it is the great melting pot.

Finding the Good Things

If the average garageman could spend his time continually traveling all over the country, visiting garages, repairshops, salesrooms, purely for the purpose of getting ideas which would better his own business, that business would grow by leaps and bounds. He would see something here that would reduce overhead; something there that would solve a difficult storage problem; something there that would eliminate his used car troubles.

And this is exactly what the trade paper does for the dealer, the garageman the repairshop operator. It is continually searching the country for the best there is in it so that its subscribers may benefit thereby.

The man who "Cannot find time to read the trade papers" must MAKE TIME, if he is to keep abreast of progress and continue to eat regularly.

Complaints

LATELY, complaints have reached Motor World that repair work is not up to standard; jobs have failed at critical times, and in some instances there appears to be evidence that the man who tackled the work was not qualified to do it. That there should be cause for such complaint is regrettable and calls for immediate action. This is one thing which the garageman or the repairshop operator must not permit to exist.

Careful supervision of work will help in making such complaints impossible. But most important of all is to get good workmen. Don't have a boozier in the shop; weed out the loafers and the incompetents. Have a careful system of keeping track of all jobs done, and then when complaints do come in, there will be no difficulty in placing a finger on the guilty person. His name on the payroll reflects discredit on every other name and on the good name of the shop.

Trade Analysis

SOMETHING good almost invariably comes from analysis, from investigation, and it is hoped that some good will come to Motor World readers in the great Northwest, through a careful perusal of the articles on territorial conditions appearing on another page. These are by Ray W. Sherman, the father of Reilly. He is traveling through this great territory for the express purpose of investigating business conditions and analyzing trade tendencies.

Detroit Sales for 1915 More Than 25,000 Cars

And Three Months to Come—Electric
Sales Doubled and Truck Business
Growing Steadily—Some Show-
rooms Empty in July

DETROIT, September 24 — Dealers, distributors and branches in this city have disposed of between 25,000 and 30,000 new cars since the beginning of 1915. About half of these cars were sold to Detroiters and the remainder to other residents of Michigan. Only a part of the sales were actually made from dealer to owner, most being made to the local dealer or distributor's subdealers or agents.

The sales of Ford cars alone are said to total between 12,000 and 14,000 thus far this year, so the total of 25,000 to 30,000 for the 44 local dealers handling 57 different makes of passenger gasoline and electric cars will not seem so extraordinary.

There are a good many dealers who say they could have sold four or five times as many 1915 models as they had to sell. That means in several cases as many as 300 cars, while in one instance it was said it would have made a difference of 500 or more cars. In a majority of instances the difference would have been from 30 to 100 cars.

Empty showrooms were to be found along Detroit's automobile row as early as July, either because all cars to be had had been received and sold or because the manufacturer could not get them out. One instance is found where a distributor sold several hundred cars during several months while most of the time he had no demonstrator. Some dealers asked friends who just had received delivery of a new car to let them have it a day or two for their showroom.

Had it not been for the used cars which the dealers had many could as well have closed their salesrooms until the 1916 models were received.

Thus far this year more electric vehicles were sold than in practically any other two seasons combined. One dealer stated that his sales, which always are good, had increased 200 per cent and that from his investigations the 1916 season will be a still better one.

The sales of commercial cars has kept on growing steadily and several dealers say they doubled their sales thus far this year as compared with the same period in 1914.

Since the 1916 model passenger cars have been shown the dealers and distributors have been busier than during any previous year. Many among them keep open until 10 and 11 at night and



CHAS. ROCKLIFF
Chicago Pneumatic Tool Co.

District Representatives

XXVI

This is No. 26 in a series of pictures of the District Representatives of all the more prominent car manufacturers. These are the men with whom the dealers throughout the country come in closest contact and who form an important link in the chain that binds the maker to the user.

Charles Rockliff, who is district representative of the Chicago Pneumatic Tool Co. in Greater New York for Little Giant motor trucks, joined the Winton force in Brooklyn in 1899. Two years later he began building trucks to order on his own account; one of these machines was awarded a medal in the first commercial vehicle trials held by the Automobile Club of America, in 1904. Subsequently he was with the Lambert Motor Truck Co. for several years as manager. He installed the delivery service of the Chicago Daily News and the New York Herald. All Mr. Rockliff's experience has been in the line of motor trucks, and includes not only their handling from a sales point of view, but also their manufacture and operation.

during several hours on Sunday. Several have made it a special business to have out-of-town prospects come on Sunday when informed that during the week days it is either impossible or very difficult for the prospects to come.

With the advent of so many cars at moderate prices, or so many different well-known makes, offering cars at about the same price, it might seem that some one would get the larger slice of the business. With the exception of the Ford, which is considered in a class by itself, many dealers say that sales are easier than they were a year or two ago.

In a general way they say that the car of 1915 was much better than the car of 1914 in construction, in finish, in material. There was no one car alone to have these qualities. There were a great many. So it is with the 1916 cars thus far seen. The dealers say that for these reasons sales are easier. Furthermore, a very large percentage of sales result from satisfied owners, and as the greatest number of owners are satisfied this cannot but help.

The only matter about which most of the dealers and distributors are in full accord as to sales is that the time of the high-priced automobile seems to be past. The demand is so small that hardly any dealer cares to handle such cars except under most favorable and special arrangements with the manufacturer. By high-priced cars the local dealers referred to those costing more than \$4,000.

To Reorganize L. P. C. Motor Co.

RACINE, WIS., September 24—A voluntary assignment was made on September 16 by the L. P. C. Motor Co. to F. Lee Norton, who represents the company's creditors as assignee. The action was taken as a means of conserving the assets and reorganizing the concern on a sound financial basis, operations continuing as usual in the meantime. In a statement issued by Capt. William

Mitchell Lewis, president and chief stockholder, the voluntary assignment was made for the benefit of creditors and to enable the assignee to continue the business and thus avoid disposition of the assets at a great sacrifice. Inability to obtain funds in time to meet obligations maturing this month made such action necessary.

Gas Now 9.8 Cents in Kansas City

KANSAS CITY, MO., September 23 —The Standard Oil Co. met the increase in the price of gasoline established by the independents. On September 16 the Standard announced a 1-cent rise in the Kansas City market and now both independents and Standard are getting 9.8 cents a gallon. In some Missouri cities gasoline is selling at 14½ cents, after an increase of 2 cents a gallon coincident with the 1-cent rise by the Standard at Kansas City. In Springfield the E. M. Wilhoit Oil Co. is getting 11.6 cents for gasoline, while the Standard and others are getting 10.6 after the 1-cent rise.

HARTFORD, WIS., September 23—Ground was broken last week for the first of a series of building operations at the plant of the Kissel Motor Car Co. The company is preparing to double its production in the near future. Two new buildings are started, one for storage and shipping, and one for the enameling department. The former is to be 100 feet long and the other 110 feet long, each being 35 feet in width. The third structure, soon to be started, is a modern four-story office building.

Gas Up 1 Cent in Pittsburgh

PITTSBURGH, Sept. 20—The Atlantic Refining Co. has advanced the price of all grades of gasoline 1 cent a gallon, making bulk quotations as follows: Motor, 16 cents, 68-70, 18 cents, and 73-78, 20 cents.

Ferro Completes 300-hour Test

Eight-cylinder Overhead Valve Motor Shows Greater Power After the Run Than Before It—Wear Inappreciable

FINAL reports on the 300-hour endurance test of the Ferro eight-cylinder motor which extended from June 23 to July 7 this year have just been made public. This test was held under traveling conditions, making it approximately equivalent to the service done by a car traveling at a speed of 35 m. p. h. with a motor speed of 1,500 r. p. m. At the horsepower developed, namely 34.93, the work done equals that of climbing a grade of 8.5 per cent with a car weighing 3,300 pounds. Among other elements of design in the Ferro may be mentioned the overhead valves, the unit casting comprising the cylinders and upper half of the crankcase, which is cored for valve passages, seats, etc., the 16 camshaft and the firing order which proceeds directly from one side of the V block to the other, that is, the firing order is 1-1, 3-3, 4-4, 2-2.

Lessons From the Test

While this test has not been officially conducted under the supervision of any of the automobile clubs, engineering societies or universities, it was a carefully-made factory test and is stated by the Ferro company to be authentic and supported by records on file at the Ferro offices which are open for inspection. The test was continued for 324½ hours. Of this time, 12½ hours were consumed in eleven different stops, giving a total actual running time of 312 hours. The stops made were for various causes, all but three of which were due to troubles with accessories and had nothing to do with the design and construction of the motor itself. The other three were in each case due to broken valve springs, and this, the Ferro concern states, is one of the most valuable points brought out by the test, inasmuch as the springs were purchased on the open market and should not have failed if they had been of proper quality for their strength and size. A repetition of this trouble can now be readily guarded against.

The tabulations appended herewith show the results of the test. These are numbered and by referring to the numbers 1, 2 and 3 it will be noted that the maximum brake horsepower obtained before the run was 59 at 2,250 r. p. m. The horsepower per cubic inch piston displacement and the maximum speeds are both of interest. It will be noted that the average horsepower developed, the average horsepower per cubic inch of piston displacement and the average

r. p. m. were all in excess of what would be expected by the S. A. E. rating. The gasoline and oil consumption, which figures are also given, are quite low.

After the test the motor was torn down and an examination was made for wear on all the stressed parts. In every case the Ferro organization states that it was unappreciable and in no case enough to produce noise.

Motor In Good Shape

The condition of the seats of the valves in the cylinder would seem to bear out the claim made for the overhead valve type of construction. There was no carbon that prevented the proper seating of the valves nor any pitting to cause leakage. The importance of this was demonstrated by the fact that the

Specifications of Model 2 Ferro Eight in 300-Hour Test

Number of cylinders.....	Eight
Bore and stroke, in inches.....	3¼ x 4
S. A. E. rating.....	33.8
R. p. m. at S. A. E. rating.....	1,500
Piston displacement in cubic inches.....	265.6
Weight of motor in pounds.....	585
Type of cylinder.....	V-block
Type of valve.....	Overhead
Lubrication.....	Pressure Feed
Carburetor.....	1-inch Double Zenith
Cooling.....	Thermo-syphon
Ignition.....	Delco
Spark plugs.....	Bosch

TABLE I

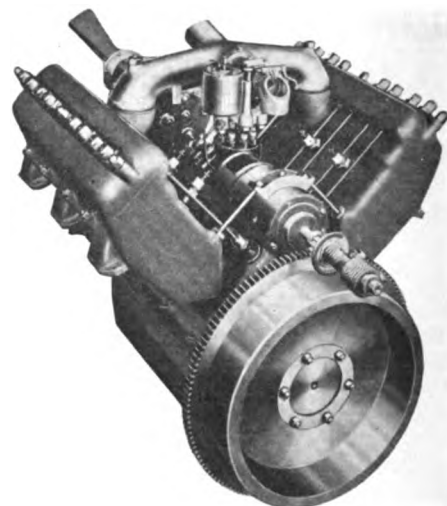
Horsepower Tests Made Before 300-Hour Run	
Max. B. horsepower obtained.....	59.0
Corresponding r. p. m.....	2,250
Horsepower per cubic inch displacement.....	0.222
Maximum torque in foot-pounds.....	154
Corresponding r. p. m.....	1,500
Maximum speed attained r. p. m.....	2,500
Corresponding B. horsepower.....	54.0

TABLE II

300-Hour Endurance Run	
Dates of endurance runs.....	6-23-15, 7-7-15
Duration of runs in hours.....	312
Average horsepower developed.....	34.93
Referred to S. A. E. rating in Hp.....	1.13 more
Referred to S. A. E. rating in per cent.....	3.24 more
Average Hp. developed per cubic inch piston displacement.....	0.132
Average r. p. m.....	1,522
Referred to S. A. E. rating r. p. m.....	22 more
Referred to S. A. E. rating in per cent.....	1.47 more
Total number of r. p. m.....	28,492,000
Total gasoline consumption, gal.....	1,160
Average gasoline consumption, gal. per hr.....	3.72
Gasoline consumption per Hp. hr. in lbs.....	0.6283
Total oil consumption, gal.....	50.50
Oil consumption per hr., gal.....	0.161

TABLE III

Horsepower Test After Run	
Average temperature of inlet water, degrees Fahr.....	71.6
Average temperature of outlet water, degrees Fahr.....	139.3
Range of temperature.....	57.7
Stops due to motor troubles.....	3
Maximum horsepower obtained.....	60.75
Hp. per cubic inch piston displacement.....	0.228
Increase of Hp. after run in Hp.....	1.75
Increase of Hp. after run in per cent.....	2.88
Corresponding r. p. m.....	2,250
Maximum torque, ft.-lb.....	155.5
Corresponding r. p. m.....	1,400
Increase of torque after run in ft.-lb.....	1.5
Increase of torque after run in per cent.....	0.97



Eight-cylinder V-type overhead valve Ferro motor which underwent 300-hour test

horsepower at the end of the run was greater than the horsepower indicated at the beginning.

No carbon deposit could be noted on the piston heads and this was probably due to the fact that the temperature at all times in the endurance run was quite high and prevented the collection of anything more than a small quantity of hard baked carbon. The combustion chambers were slightly carboned and no signs of scoring were noted in the cylinder barrels.

Table No. 3 in the illustrations herewith showed the condition of the Ferro eight after the tests. The higher horsepower after the run namely, 61 at 2,250 r. p. m., in spite of the worn distributor, very clearly bring this out. The detailed tabulations of the test are given herewith:

St. Louis Tests "Dimmed" Lamps

ST. LOUIS, September 24—A municipal bureau for the free inspection and regulation of automobile headlights has been established here to end a three-cornered controversy between the police, the courts and automobile owners, resulting from a recent ordinance prohibiting the use of glaring headlights. Hundreds of owners, arrested for violation of the ordinance have been freed or let off with minimum fines on the plea that they had attempted to obey the law. Some were arrested for having dimmed their lights to such an extent that they could not be seen at the proper distance, while others were arrested for permitting the lights to shine beyond the legal distance of 75 feet. The municipal bureau will adjust all lights brought to it and will issue a tag to the car owner which will exempt him from arrest. The street department will erect a "shadow box" 200 feet long and lined with velvet, to test automobile lights. The box will be open to all car owners and a street department employee will be placed in charge of it.

The RETAIL NEWS

SOUTHWEST

Don Riley, St. Joseph, Mo., will complete by October 1 a garage at Seventh and Jule streets.

The Illmo Motor Mdse. Co. has moved into new quarters at 1174-76 North Kings Highway, St. Louis, where it will handle Michelin tires, oils, accessories and supplies and do vulcanizing. **H. F. Goudy** is manager.

The Denison Motor Car Co., Denison, Tex., has been chartered with a capital stock of \$5,000. The incorporators are: **B. S. Benedict**, **Frank Platter** and **W. W. Lankford**.

The Missouri Auto Specialty Co., St. Louis, has doubled its salesroom space and service capacity by moving to 1903-1905 Locust street.

T. E. Linn and **R. W. Amand** have purchased the Proctor Garage at Port Arthur, Tex.

J. B. Snowders has purchased a half interest in the City Garage at Commerce, Tex.

P. R. Skinner and **T. A. Boyce** have opened a garage at McCouly, Tex.

W. S. Ciuch, **G. C. Hamilton** and **Charles Brewer** have formed a partnership and opened a garage and repairshop at Childress, Tex.

W. H. Brown, Phoenix, Ariz., has purchased the Fourth Street Garage at Amarillo, Tex.

Grebe & Kleir are building a garage at Fredericksburg, Tex., to cost \$8,500.

Walker & Whitte, San Saba, Tex., have awarded the contract for a garage building.

The Paige-Detroit Motor Car Co., St. Louis, will soon move into a new building which is in course of erection.

George W. Webb, Kansas City, will erect a garage at a cost of \$1,500.

Clarence Webb and **J. W. Clements**, Temple, Tex., will build a garage and repairshop at a cost of about \$20,000.

The Chillicothe Automobile & Supply Co., Chillicothe, Mo., will erect a garage on South Locust street at a cost of \$38,000.

Howard Logan and **Wynne McDougal**, Princeton, Mo., have formed a partnership in the garage business. They will handle the Reo.

The Ford Motor Car Co., Beaumont, Tex., will erect a garage at a cost of \$10,000.

E. E. Guckenheim will erect a garage at 423 North Euclid boulevard, St. Louis, at a cost of \$5,000.

The Frawley Motor Co. has opened salesrooms at 1601 Commerce street, Dallas. The Reo is handled.

The Wyatt Motor Car Co. was recently organized in Fort Worth, Tex., to handle the Studebaker. Salesrooms are at 911 Commerce street.

The Lee County Motor Co., Marianna, Ark., is remodeling the Derrick building on Main street for a garage.

The Lighting Machine Co., 115 North Harvey street, Oklahoma City, has opened a garage and accessory store in connection with its machine shop.

PACIFIC COAST

J. C. C. Morris, Moon distributor in the Pacific Northwest, has moved to 907 East Pike street, Seattle. **G. G. Gunderson** has been appointed city sales manager.

The Child, Day & Churchill Co., Spokane, has secured the agency for the Norwalk tires in the Inland Empire territory.

The W. J. Ball Motors Co., Spokane, has moved into its new garage at 1116-18 Sprague avenue. Studebaker cars and Ajax tires are handled.

Hodgins Motor Co., Spokane distributor of the Maxwell, announce the following subagents: **John T. Moore**, Bonners Ferry, Wash.; **L. F. Rohleder**, Malden, Wash.; **Joseph Leur, Jr.**, Chewelah, Wash.; **Koch & Dewald**, Ritzville, Wash.; **Lewiston Fuel Co.**, Lewiston, Ida.; and **S. E. Hunt**, Colfax, Wash.

Ed Campion, Seattle, Wash., has opened a distributing house for Swinehart tires. His territory embraces Washington, Oregon, Idaho and Montana and British Columbia. Campion's store is at 909 East Pike street.

The Storage Battery Service Co., 1532 Broadway, Seattle, Wash., has been appointed agent and service station for the Willard storage battery. **L. J. Ranney** is manager.

The Ensing Carburetter Co., Los Angeles, has moved to larger quarters at 149-51 West Pico street.

James Roche will erect a garage and machine shop at 542 South Figueroa street, Los Angeles.

EAST

The Foss-Hughes Co., Washington, D. C., local distributor of the Pierce-Arrow, has moved into new and larger quarters at 1141 Connecticut avenue. The building is 22 x 100 feet. A feature is an 18-foot plate glass window in the front.

Edward P. Price, Youngstown, Pa., has taken over the Thomas Motor Car Co., Elm street. The National car is handled.

Schall-Crouch Auto Co., Baltimore, Md., will erect a garage at 114-118 West North avenue.

The Ford Motor Car Co., Galveston, Tex., will erect a building at Pearl street and Broadway at a cost of \$10,000.

The Painter-Dunne Co., Pittsburgh, will build a garage on Center street.

Calder & Dyer, Utica, have incorporated for \$2,000. They will deal in automobiles and accessories.

The Wood Auto Supply Co., Utica, has incorporated with a capital stock of \$25,000. The directors are **Charles J. Wood**, **George E. Camp** and **Emerson M. Willis**.

Ray C. Hill has opened a machine shop at 48 East Swan street, Buffalo.

Thomas Smyth will erect a one-story garage at 30 North Second street, Allentown, Pa.

The A. W. Haile Motor Co., Buffalo, N. Y., Studebaker distributor for western New York, has taken over the three-story building at 26 Goodrich street. The first floor will be the used car de-

partment, the second the service department, and the third the paint department. A stock of parts valued at about \$10,000 is carried.

Harry Starkie, 348 Trumbull street, Hartford, Conn., Chevrolet representative, has leased the old Spencer salesroom at the corner of Main and Pleasant streets. These quarters are now being put in shape after being remodeled.

The Hartford Salvage Co. has removed from the Ashwell service station to the Asylum Street Garage, 544 Asylum street, Hartford, Conn.

The Gunn Rubber Co. has opened a store at 61 East Main street, New Britain, Conn., in the new Erwin block. **Andrew F. Gunn**, assistant general manager of the E. J. Todd Rubber Co., at Hartford, is a prime mover in the new enterprise. **Edward F. Gunn**, formerly in charge of the Pittsfield, Mass., store of the E. J. Todd Rubber Co., will manage the business. Accessories will be carried.

The Delion Tire Sales Co., 203 Allyn street, Hartford, Conn., has established the following sub-agencies: **G. M. Moore**, Thompsonville; **George Gates**, Windsor Locks Garage, Windsor Locks; **Thomas M. Rich**, Southington; **Eastern Supply Company**, Danbury; **Charles E. Jackson**, Manchester, and the Cook Garage at Plainville.

William M. Apperson, 230 Main street, Hartford, Conn., J. M. shock absorber representative, has turned over his interests to the New England Service Co. at the same address. Apperson leaves Hartford shortly to become general manager of the J. M. company at Philadelphia.

Carter Brothers, Washington, D. C., are specializing on the building and rebuilding of cars at the plant of the Washington Motor Car Co., at Hyattsville, Md.

The Buick Agency, Providence, R. I., has separated its salesrooms and office from the service station. The salesroom and office will be in the Buick Building, 235-237 Broad street, and the service station at 57 Chestnut street.

The Poehlmann Automobile Co., Baltimore, Md., Chevrolet dealer, will soon occupy their new building at Cathedral and Chase streets. The new quarters are fireproof throughout, four stories high, with a machine shop on the fourth floor. **A. Trust Poehlmann** is the president.

The Pneumatic Tire and Rubber Co., Baltimore, Md., representative of the Racine tire, has entered its new place, 23 West North avenue. The company is operated by **F. J. Rowe** and **Charles M. Green**.

MOUNTAIN

J. M. Patrick, Denver, Lewis distributor, has moved from 533 Marion street to 1515 Cheyenne Place, where he is occupying the salesroom recently vacated by **L. G. Palmer**, formerly Paige distributor.

L. E. Kelton, Hayes distributor, Denver, has moved from 1616 Broadway to permanent quarters at 1622 Broadway. He has added to his sales force **Russell H. Forbes**, formerly automobile editor of a local newspaper.

Mulnix & Steese, 17 East Colfax avenue, Denver, Grant distributor, has changed its name to **Mulnix & Rarie**, the interest of Steese having been bought by **Baxter Rarie**, formerly Grant distributor for northern Colorado.

The National Rubber Supply Co.'s Denver branch has moved from 1623 Broadway to larger quarters at 1629 Broadway.

NORTHWEST

The Overland-Reynolds Co., Fargo, N. Dak., has moved to the Feckler building on N. P. avenue, formerly occupied by the Ford company.

W. J. Mayer will build a garage at 84 South Tenth street, Minneapolis.

The Buckstaff Garage, Lincoln, Neb., is remodeling the building at 726-40 O street and will use it as a garage and salesroom.

The McShane Motor Co., Omaha, has opened for business at 2216 Farnam street. Regal and Mercer cars are handled.

J. M. Wilson has purchased the business of the Western Rubber & Auto Co., Sheldon, Ia., the name of which has been changed to that of the J. M. Wilson Auto Co. The Overland and Hudson cars are handled by the company.

The Oldsmobile Sales Co., Omaha, has been organized, and has a salesroom on automobile row. T. M. Bromwell has become affiliated with this company.

Roy L. Alley, recently with the Huffman Auto Co., has gone over to the Noyes-Killy company, which handles Kissel and Saxon cars.

C. G. Catlin, A. C. Whittet and Julius Traeger comprise the reorganized firm which is handling the Ford in this vicinity. They occupy the remodeled Ayres building.

C. A. Lord, Lincoln, Neb., has opened a new garage and salesroom on the first floor of Lincoln's Eagles' lodge on North Twelfth street. He has added the Saxon car to his line.

W. A. Eversull, Crawford, Neb., is erecting a cement block garage on South Second street.

George Kocina, Veseli, Minn., has gone into partnership with James Voracek, and transformed the blacksmith shop into a garage.

R. N. Sweet, Rochester, Minn., will go into business as agent for the Dodge car.

Fred Fiegel & Son, Kasson, Minn., have begun erection of a garage.

O. H. Thordal, P. J. Groth, H. J. Hanson and M. F. Hanson have formed an automobile company at Gary, Minn.

T. J. Forster, Glencoe, Minn., will erect a brick garage on Franklin street.

The Emmons Auto Co., Albert Lea, Minn., will erect a brick garage, 46 by 90 feet.

Bennett & Meyers, Ellendale, Minn., have leased the garage of Olof and Lewis Torgerson.

W. F. Pennick, Howard Lake, Minn., will open a garage in the Olson building, Pacific and George streets.

Joseph Albel will control the Winona Motor Co., Winona, Minn., upon retirement of J. P. Linden and John Koscieliski.

W. F. Turner, Dickinson, N. D., has opened a garage.

Miller & Verley, De Smet, S. D., a new partnership between Frank Miller and Walter Verley, has rented the garage occupied by the De Smet Auto Co.

Senator A. W. Miles, Livingston, Mont., will construct a brick and concrete garage, 75 by 140 feet, on Second street between Lewis and Clark streets.

The Ford Agency, Lewistown, Mont.,

has taken a five-year lease on a two-story building for salesroom and garage, which is being erected by the First National Bank.

The A. W. Miles Co., Clyde Park, Mont., will build a garage.

Ed Simonton, Billings, Mont., has bought the Broadway garage, Eighth avenue and North Broadway, from Ernest Worth.

E. R. Davidson, New Rockford, N. J., has bought the H. J. Mitchell interest in the automobile firm of Mulvey & Mitchell.

Clarence Lawfer, Leith, N. D., has bought the Leith garage from Alfred Johnson.

The Mutual Auto Co., Duluth, will erect a garage at a cost of \$25,000.

The Cook Garage, at Seventeenth and Harlan streets, Falls City, Neb., has been sold by W. L. Cook to W. O. Stump.

H. E. Frederickson, Pender, Neb., has sold his garage to James Rihanek, of Thurston.

Jones & Co., Falls City, Neb., has been reorganized as Loucks & Jones, and has the agency for the Ford.

Walter Eaton, of the Eaton Garage, Alliance, Neb., and **J. L. Nicholai**, of the Reo Garage, have formed a partnership and are doing business under the name of the Reo Garage.

The Hebb Automobile Co., Ford agent, Lincoln, Neb., has commenced work on a building 50 x 150 at Twelfth and Q streets.

E. G. Kesler, of Friend, Neb., has bought a half interest in the garage of Henry Feldhus, DeWitt, Neb.

MIDDLE WEST

John W. Price is at the head of a company in Woodsfield, O., which is planning to build a garage.

The Bonafide Garage, Plymouth, Mich., has been sold to W. J. Beyer by John J. McLaren.

The McCormick Auto Sales Co., Kalamazoo, Mich., agent for the Hupmobile, has located at new quarters, Douglas avenue and North street.

J. H. Cooper, Kalamazoo, Mich., district agent for the Dodge and Saxon, is now established in his new salesrooms and garage at Water and North Church streets.

C. B. McDole, 319 South Burdick street, Kalamazoo, Mich., who has been doing repair work, has installed machinery to manufacture fenders and radiators.

The Manistee Garage, Manistee, Mich., is now operated by Albert Feaveyear and Howard Bottrell. Within a short time they expect to handle a line of low priced cars, accessories and supplies.

Mark T. and Francis Doyle have leased the garage business of the Alpena Garage, Alpena, Mich.

Theodore Kiskey has bought the garage at 421 West Main street, Belding, Mich.

Dugan & Eldren, implement dealers, Allegan, Mich., have opened a garage, which is in charge of C. D. Freese, Kalamazoo.

George Ekdahl has leased the garage building, costing \$10,000, recently erected by A. E. McIntosh, on First street, Geneva, Ill., and will do a general repair and accessory business.

Walfrid Schwab and H. J. McGrath, Bloomington, Ill., have rented a building

at Towanda, Ill., and will open a garage, carrying supplies and doing repair work.

The firm of Stephan & Kleckner has been formed at Freeport, Ill., and will deal in the Buick, Cadillac and Chandler cars at 22 Stephenson street.

E. O. Noack has let the contract for a \$10,000 garage at 2006-8-10 Fourth avenue, Rock Island, Ill. Noack is agent for the Buick and Chevrolet and is now located at 329 Nineteenth street. He will move into his new building as soon as it is ready.

The Hunt Auto Sales Co., Phillips, Wis., which lost its garage by fire, is building a new fireproof structure, 50 x 100 feet. It will be equipped for repair-shop, storage, supply store and salesrooms.

The B. & W. Garage Co., New Richmond, Wis., has broken ground for a garage and repairshop, 66 x 120 feet.

The Superior-105 Garage Co. has been incorporated with a capital of \$10,000 to operate a garage. The incorporators are A. Frankel, W. G. Cole, H. Jones, Hazel Cole and Florence Frankel.

The Fire-Proof-Garage Co., Dayton, O., has been incorporated with a capital of \$10,000 to operate a garage. The incorporators are William D. Huber, Adaline C. Huber, Annie E. Huber, Olive M. Swift and Julia Ann Keever.

Arthur C. Hobbs and Joseph Denney have formed a partnership and will soon erect a three-story fireproof garage on La Salle street, Aurora, Ill. The firm has secured the agency for the Velie and Hupmobile and will do a general repair business in addition to handling accessories and supplies.

The Foster Motor Sales Co., Detroit, distributor for the Briscoe and Imperial cars, has been reorganized. The officers are William H. Foster, president and general manager; S. R. Turner, vice-president in charge of sales, and C. R. Peters, superintendent of the service and maintenance departments. Harry P. Vivian, who has been appointed district representative for Michigan and Ohio by the Briscoe Motor Co., will make his headquarters with the Foster company while in Detroit.

Low Broadway, of Broadway & Percy, Yale, Mich., has retired from the firm which operated that Yale garage. The business will be continued by N. B. Percy.

O. E. Burke will open the Overland Garage in Brown City, Mich. He was formerly an Overland salesman.

W. M. Lamb, late of the Chicago Cadillac organization, has been transferred to Rockford, Ill., and will have charge of the sales department.

A. C. Lacey has purchased the Uplands Garage at 2108 Main street, Peoria, Ill., and will operate it.

Joseph Miller, Freeport, Ill., has retired from the repair business, leasing that department of his garage to Albert Frazier. Miller will devote his time to the Buick, for which he is agent in Stephenson county.

The Goddard-White Co. has opened a tire service station at 424 South Fourth street, Springfield, Ill.

The John G. Wolleager Co., 417-425 Wells street, Milwaukee, Wis., state agent for the Studebaker, will build a 2-story fireproof addition 60 x 90 feet.

The Central Welding & Cutting Co., 950 Douglas avenue, Racine, Wis., suffered the loss of its shop by fire. It is planned to rebuild immediately.

Points Every Repairman Should Know— About the Hudson

THE 1916 Six-40 Hudson is a high compression, high-speed type of motor and the combustion chamber is comparatively small. On this account it is essential that the spark plug electrodes be quite short and of suitable material and size to prevent their becoming red hot and causing pre-ignition. Plugs with a closed end or shell which extends into the combustion chamber will be sure to cause pre-ignition. The correct type is shown in Fig. 1.

The timing of the 1915 and 1916 Hudson Six-40 and Six-54 motors is: Inlet opens 10 deg. late, closes 28 deg. late; exhaust opens 40 deg. early, closes $2\frac{1}{2}$ deg. late.

In timing the ignition, first advance the spark lever and see that the advance rod, which connects the generator advance lever and sector gear at the base of the steering box, is not too long so as to bind the distributor advance ring against the generator.

How Spark Is Timed

Open the priming cocks, and turn the motor over slowly until No. 1 cylinder starts to blow. This cylinder is due to fire in advance position when the mark A, Fig. 4, on the flywheel reaches the pointer attached to the crankcase. This may be observed through the inspection hole.

Loosen cam by turning screw A, Fig. 7, and set contacts to open at this point when rotor button comes under No. 1 contact on the distributor head.

The spark occurs the instant the timer contacts are open. In checking the timing the cam should be held on tension

THIS is the second of a series of articles which will appear from week to week on knotty points in the care and repair of the various popular cars.

Although most cars are much the same, there are details on every one that give difficulty to the repairman the first time he encounters them, and it is the object of this series to give enlightenment on these points.

It is suggested that the repairman save these articles so that they can be used as a ready reference when a car with which he is unfamiliar is brought to him for repair. We shall be glad to answer any and all questions pertaining to maintenance.—Editor.

in the opposite direction of rotation so that all back lash is taken up. The adjusting screw on the cam must always be set down tight after changing.

After checking the timing, replace the rotor and follow with the distributor head, seeing that this is down tight in position. First rub a little vaseline on the rotor track.

In taking apart the contact breaker assembly care should be taken to keep intact the copper wire which connects the spring anchor post. Loosening or breakage of the wire will cause the current to travel through the spring, taking the temper out of it and making the breaker arm bind on the pivot.

The contact arm pivot post should not

be oiled. If the arm does not work freely it is because this pivot is dirty. It should be cleaned thoroughly, also the hole in the contact arm.

In the carbureter, the idling jet, Fig. 8, supplies the mixture for light load; and the main jet and the compensator supply the gas at the higher speeds. To cut down the amount of gas either one may be changed. The compensator is usually No. 5 larger than the main jet for ordinary climate and normal running, say up to 40 miles an hour. For hill climbing in normal altitudes, and where constant pulling power is needed without excessive speed on the level, No. 10 larger will be better. If more speed than 40 m. p. h. is required, and that on good level roads, or where there is always a good run at the hills and they can be climbed as fast as the car will go, the main jet will need to be equal to or larger than the compensator, according to the speed of the motor.

Bear in mind that the two always work together, but the compensator is affected most by the lower speeds, up to 20 m. p. h., and the main jet is affected by the speeds above 20 m. p. h. and it becomes more noticeable as speeds above 40 m. p. h. are reached.

In reducing gas consumption it is safe to assume that the size of the main jet can always be reduced first. If this step affects the acceleration too noticeably, increase the compensator to No. 5. This may strike a happy medium.

If dirt in the gasoline pipe is so minute that it passes through the screen at the base of the float chamber it may clog the idling well, or jet. Small flies

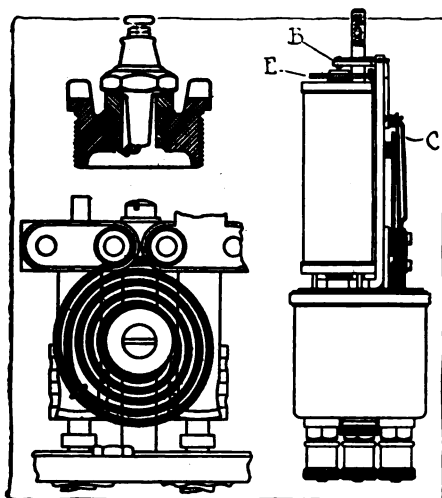


Fig. 1—Upper left—Type of spark plug best suited to Hudson motor. Fig. 2—Lower left—Lamp dimming resistance which is damaged by varying the position of the ring that holds the coils together. Fig. 3—Right—Ignition relay showing adjusting screw at E

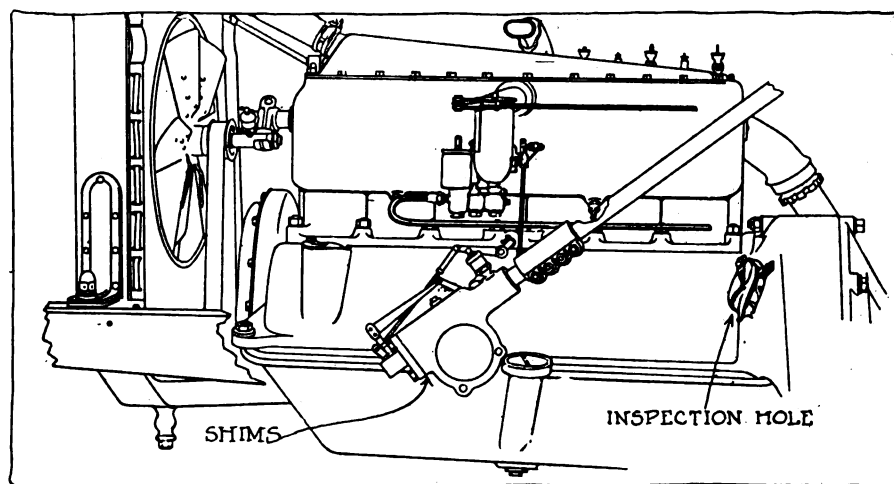


Fig. 4—Left side of Hudson motor, showing carburetor, steering gear and inspection hole through which the ignition timing may be checked up. Cylinder No. 1 fires in advance position when the mark A on the flywheel is under the pointer on the crankcase. At this point the piston is $\frac{1}{2}$ inch from top dead center. End play in the steering gear is eliminated by taking off the cover plate to the bottom of the steering gear and removing as many shims as required

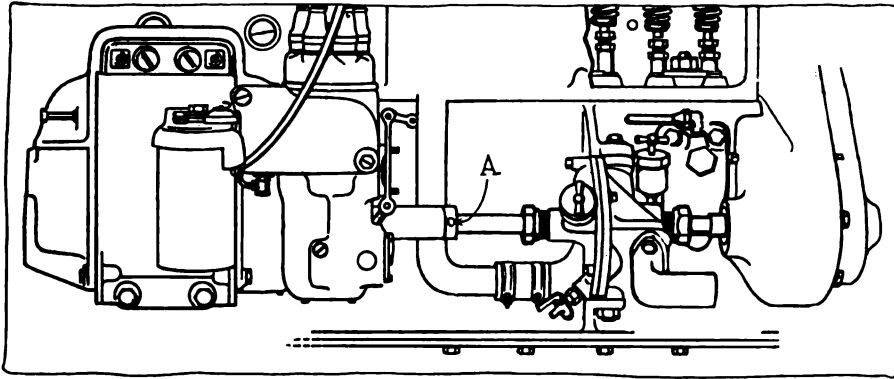


Fig. 5—Right side of Hudson motor, showing Delco driving coupling at A, and also water and oil pump. How to most easily remove these various units is described in the text

or bugs will sometimes clog the air adjustment with the same result.

To increase or decrease the motor oil pressure, the tension on the spring holding the discharge valve may be varied.

The worm wheel support of the steering gear is equipped with an eccentric bushing, with which adjustment can be made when too much play occurs between worm wheel and worm gear. The end play in the steering column, Fig. 4, can be taken up by removing the necessary number of shims at the base of the steering gear case.

To clean the clutch, turn the flywheel around until the clutch drain plug appears at the observation hole in the flywheel housing. Squirt kerosene in, and later it may be drained out by bringing drain hole to the bottom. Then a half pint mixture of cylinder oil and kerosene in equal parts should be put in.

Corks Must Be Dry

In putting in new corks in the clutch plates it is necessary that the corks be perfectly dry and show a full bearing surface. This latter point can only be ascertained by rubbing them flat on a surface that has been covered with Prussian blue or lamp black, using only a very thin coating.

Plate separation is facilitated and equalized by the small coil springs interposed between the driving disks and great care must be exercised or these little springs will slip out of place and becoming jammed between the moving parts of the clutch, cause it to drag instead of release properly.

It is important to see that the driven disk nearest the cover, at the transmission end of the clutch, does not slip out of the slots in the drum; this will cause a loud scraping sound when the clutch is released.

In assembling the clutch, the bronze throw-out sleeve may be utilized as a clamp temporarily, by wrapping some paper or thin shim metal around the jaws and then pressing the sleeve over it. There should be just enough shimming to make the sleeve fit tight, but not so much that the sleeve will be distorted or otherwise damaged in removing it.

The front clutch on the Delco unit may be changed without removing the outfit by first driving the pin A, Fig.

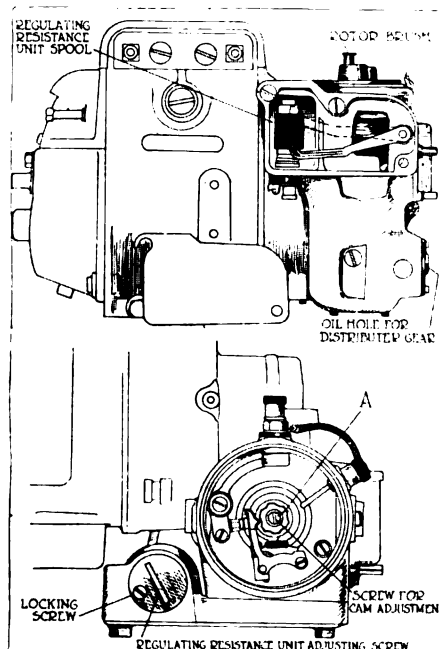


Fig. 6—Upper—Delco unit with cover to voltage regulator removed to show resistance spool and regulating arm. Fig. 7—Lower—Top view of Delco unit showing timer mechanism and resistance regulating screw

5, out and then pushing the coupling to the right. Then the two bolts on this end of the Delco unit are removed.

The removal of the water pump requires the loosening of the coupling described above and then the front end of the shaft must be released from its driving gear by taking off the timing gear cover and removing this gear.

The resistance of the voltage regulator, Fig. 6, is adjusted to the generator in which it is installed. On no account should the output exceed 20 amperes, regardless of the speed of the car. Between 15 and 20 m. p. h. the output should be 12 to 20 amperes and will gradually decrease with car speed.

This resistance spool has a wide ferrule on one end and a narrow ferrule on the other. If the spool is installed with the narrow ferrule down, the speed at

which the maximum charge is delivered is lower than with the wide ferrule down. If the generator is delivering less current than specified in the foregoing table and is not keeping the battery charged, reverse the spool.

If this does not give a sufficient charging rate, unscrew the large adjusting screw, Fig. 6. This will change the relative position of the contact arm and spool so that less resistance wire is cut into the circuit at low speed. This will increase the charging rate. If the generator is developing too much current, a reverse procedure should be followed.

In removing and replacing the resistance units, great care should be exercised not to bend the contact arm so that it bears too hard on the spool or so that it does not touch sufficiently hard to make contact.

The former makes the arm stick when in the higher position, reducing the charging rate, and the latter increases the resistance and causes arcing on the resistance unit, eventually burning it out. When there is no contact the generator is not delivering any current.

Care must be taken that the spool is clean. Oxidation can be removed with emery cloth.

Ignition Relay Adjustment

The adjustment of the ignition relay is at the pole piece E, Fig. 3. This regulates the distance between the armature and magnet pole, and the gap between contacts C. The adjustment is made by turning the notched head clockwise (looking down upon it) to increase the gap between contacts, and vice versa.

The correct distance between contacts C when the armature B is pressed down is equal to approximately the thickness of a sheet of paper. A very simple way in which the adjustment can be made when the engine is running on the battery ignition is to turn the notched head of the pole piece E in a counter-clockwise direction until the motor stops firing. Then turn it four or five notches

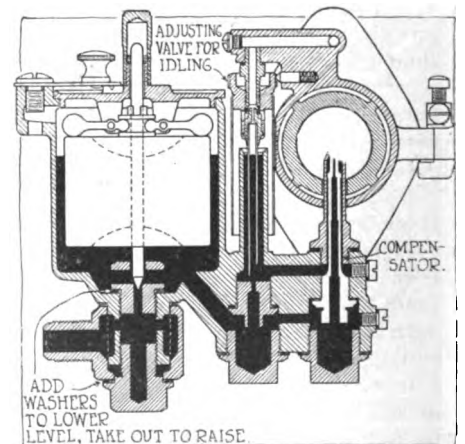


Fig. 8—Zenith carburetor. The gasoline level should be maintained at $\frac{3}{16}$ below the top of the jet, otherwise there may not be enough fuel to supply the rich mixture required for quick acceleration

in the opposite direction. Under no conditions should the adjustment screw be turned very far in either direction.

If particles of dirt should get between the armature and pole piece, they may be removed by slipping a piece of smooth paper between the parts mentioned, pressing down slightly upon the armature, and pulling out the paper.

If the armature vibrates rapidly when the lever of the combination switch is on B and the starter button is not depressed, the fine wire winding of the relay or its circuit is opened. Connect terminals 1 and 3 with a wire. This will stop the vibrating if the circuit to the relay is open.

If the armature vibrates feebly when the starting button is depressed, it indicates weak dry cells or dirt either between the relay or timer contacts.

If only one cylinder misses firing on the dry battery ignition, the trouble is not in the relay, as this instrument acts in the same capacity on all cylinders.

The dimming of the lights may be varied by changing the resistance in the coil, Fig. 2. This is done by binding up one or more coils as shown. The switch is held in place by four bolts which pass through the housing at the back of the switch. When these bolts are loosened the housing will fall down. Therefore, the No. 1 wire which connects with the generator, should be removed before dismantling the switch; otherwise a short circuit will result and the wires may be burnt out. Tying one coil together will not make very much difference. Removing half of the resistance will make a considerable increase in the light given—almost too much for town driving.

Farmers Graduating From Low to Medium-Price Cars

Springfield Show Exhibitors Develop Farmer Prospects for \$1,000 to \$1,500 Car—Scattered Exhibits Do Not Bring Best Results

SPRINGFIELD, ILL., September 24 —Political aspirations of Illinois gubernatorial candidates compensated to a certain degree for lack of a certain class of attendants at the Illinois State Fair by reason of the hoof and mouth disease epidemic which kept so many from the farming districts away from this year's show. The fair, which began September 17, had two days of rain, one day church session, two days of cold weather, and finally, on the sixth day of a nine-day event, an attendance which broke any record for a number of years, brought many to the extensive motor car exhibit and resulted in many sales and good prospects for future sales.

Motor car exhibitors at the fair are almost unanimous in the opinion that the present method of exhibiting cars at such an event is antiquated and loses much of its value through being scattered about the grounds and sandwiched in between other exhibits of every description. They believe that something should be done in coming years to segregate the motor car exhibits where for purposes of comparison as to finish and detail of construction may be more readily accomplished by persons interested. The success of the Milwaukee show last week virtually has been shouted from the housetops; at least it has been heard by exhibitors at the Illinois State Fair and considerable comment has been heard, which may result in similar action next year here.

It is interesting to note the wide range of opinion expressed as to the benefit to be derived from exhibiting cars at the fair, especially this year. Dealers who have been taking their new models to the fair show for the last six or seven years find conditions changing every

year, and many of them look upon the material reductions in prices as a controlling factor in selling the farmer a car. Several dealers expressed the opinion that inasmuch as the farmer's money comes more slowly than that of the city buyer, he naturally spends it somewhat more conservatively, and for that reason becomes a more ready purchaser this year since he appreciates that he is getting as good if not a better car for less money than he could have done previously.

One thing more noticeably evidenced this year than heretofore is the fact that the farmer has graduated from the low to the medium-priced car; in other words, those selling from \$1,000 to \$1,500. Careful survey of the various exhibits develops the fact that fully one-third of the cars shown have been sold on the spot, and before the end of the fair it is likely dealers will have very few cars to take out of the grounds. Several times today persons were heard to inquire if they might have certain exhibited cars immediately, or when the fair was over. It seemed that several of them had wished to buy cars which their local dealers had been unable to supply on account of slow deliveries by the manufacturer.

Many new agents have been appointed during the week and some exhibitors have arranged for enough demonstrations to keep them busy for several weeks to come. Incidentally it might be said that these demonstrations are not confined exclusively to Illinois, one dealer in particular having arranged demonstrations in four adjoining states. Very few exhibitors can afford to be pessimistic after the record-breaking crowd of yesterday and today. Had they been

interviewed earlier in the week perhaps less optimism would have been evidenced.

J. L. Watkins, of the Moon Motor Car Co., St. Louis, Mo., declared that business done at the show had been very satisfactory. All the cars in the Moon exhibit were sold yesterday and many orders taken for the roadster model.

"We have arranged for more demonstrations than we can handle in six weeks," said H. C. Arnold, of the Louis Geyler Co., Chicago, Hudson distributor. "These demonstrations cover the southern part of Illinois and parts of Missouri, Arkansas, Kentucky and Indiana. Much interest is being taken in the convertible Hudson top and I believe this one feature is a factor in making sales this year. Up to yesterday the small crowds made the outlook quite discouraging, but the clouds seemed to be clearing for us and by the end of the fair I believe we will have done more business, dollar for dollar, than during any previous exhibition here."

C. G. Anderson, Jeffery district representative, said that more and better prospective sales had resulted from this year's exhibit than at any time during the last six or seven years.

The Cadillac eight chassis, with sections of the motor cut away or glass enclosed and electric lighted, the engine being operated by the motor generator, came in for much attention. L. W. Whitall, factory representative, was on hand.

Charles H. Eichinger, sales manager for the Motor Car Sales Co., Chicago, Briscoe and Argo distributor, was sold out.

Dealers who exhibited follow:

A. V. Johnston, Springfield, Ill., Buick; Louis Geyler & Co., Chicago, Hudson; L. Lee Savage, Springfield, Ill., Studebaker; Velie Motor Car Co., Moline, Ill., Velie; Oakland Motor Co., Chicago, Oakland; Mutual Motors Co., Jackson, Mich., Marion, Imperial; C. J. Irwin, Springfield, Ill., Maxwell.

Jennings Auto Sales Co., Springfield, Ill., Ford; Ideal Motor Sales Co., St. Louis, Mo., Pullman; D. C. Joy, Jacksonville, Ill., McFarlan; Mound City Buggy Co., St. Louis, Mo., Malla-day, Allen; Harry Newman, Chicago, Premier, Scripps-Booth.

Ingram Motor Car Co., Springfield, Ill., Jeffery; D. U. Smith, Springfield, Ill., Cadillac; Chevrolet Motor Co., Chicago, Chevrolet, Monroe; Kissel Kar Co., Chicago, Kissel; R. Haas, Springfield, Ill., Winton, Reo, Saxon, Lexington; Van Duyn & Mathis, Springfield, Ill., Overland.

Weber Implement & Automobile Co., St. Louis, Hupmobile; Glenn D. Smith, Springfield, Ill., Cole, Empire; Lincoln Garage, Springfield, Ill., Mitchell; Isch Bros. & Hackshaw, Peoria, Ill., Glide, Interstate; J. Earl Bell, Springfield, Ill., Haynes.

Consolidated Car Co., Chicago, Abbott-Detroit; Ralph Temple Automobile Co., Chicago-Hollier; Auburn-Offor Automobile Co., Springfield, Ill., Auburn; R. D. Benjamin, Peoria, Ill., Apperson; A. G. Kellam, Peoria, Ill., Case; Motor Car Sales Co., Chicago, Briscoe, Argo; J. B. Harris, Springfield, Ill., Paige, National, Case; International Harvester Co., Springfield, Ill., Mogul and Titan tractors.

Owen Magnetic Cars in 800-Mile Test

Extraordinary Flexibility Revealed in Run Over All Kinds of Roads

NEW YORK, September 27—The first public long-distance demonstration of the Owen magnetic car was made last week when a party made a tour of over 800 miles from New York city north through Albany, Lake George and Plattsburg, around the northern end of Lake Champlain, and back to New York by way of Burlington, Rutland, Manchester and Pittsfield. Five cars made the trip, carrying press representatives from New York. The tour was expressly for the purpose of showing what the Owen car with its electric transmission instead of the conventional clutch and gearset will do on all kinds of roads.

The route covered was a typical one which led through the heart of the Adirondack mountains, also through the Green mountains and the Berkshires. There were long steep mountain grades, and long descents. One day of heavy rains was encountered. The trip incorporated typical touring conditions so far as weather and roads were concerned.

The five Owen cars gave as good a demonstration as could be wished for; in

fact, there was nothing that savored of unfavorable performance in the entire 4,000 miles total covered by the five cars. The cars were driven nearly half of the distance by press representatives in order that they might get a correct gauge on their performance. These representatives invariably handled them through the mountain sections, where difficulties would be most likely to arise if such were to occur.

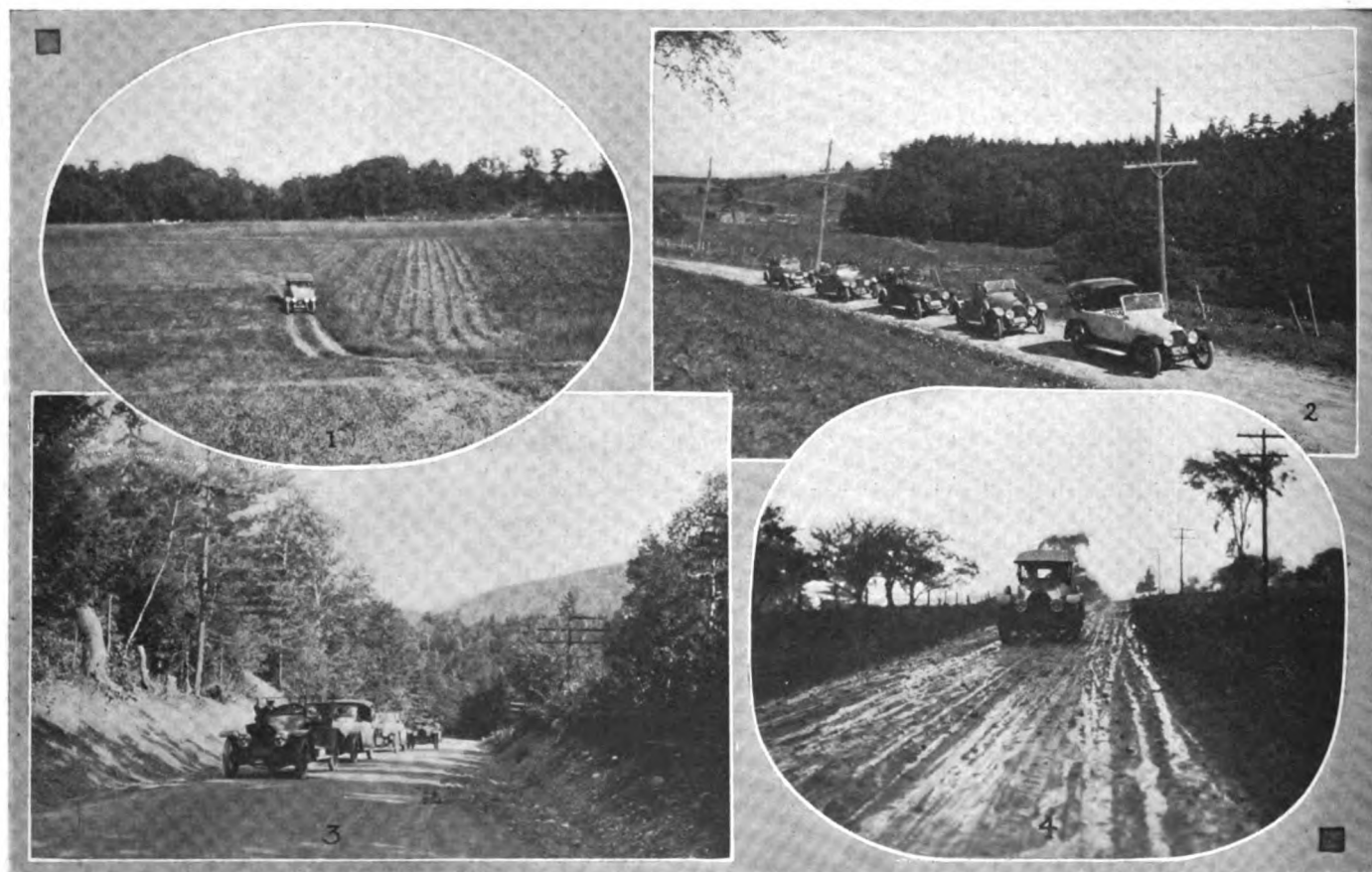
In driving a magnetic car, there are many entirely different conditions met with, all of which are highly favorable to the electric type of transmission. Foremost comes the pleasant coasting qualities. When descending a hill the car can overrun the motor at will, the same as in a conventional car with a gearset when the clutch is released; but in the magnetic this coasting occurs automatically, the driver not having to do anything. When the driver wishes to bring the motor again into use when the coasting is nearly finished there is nothing to do but press the accelerator and the car moves on without the slightest jerking.

Another pleasant feature of driving is the electric brake, in which the braking is accomplished by the electric motor on the propeller shaft, this motor being converted into an electric generator which produces electricity when the

brake is applied. This brake is applied by the small controller handle above the steering wheel, which gives the different speed ratios of the electric transmission system. It is only necessary to move this lever, which is little larger than the throttle or spark lever on the conventional car, to what is called the neutral position to apply to brake, which very readily reduces the speed of the car to 15 m. p. h. on the steepest grade and holds it there. In one descent over a mile long in the Adirondacks this brake demonstrated its effectiveness perfectly. An excellent feature in connection with using this electric brake is that when it is applied the power of the engine is automatically cut off and immediately the brake is taken off the controller lever cuts into the forward speeds as needed.

The car is provided with seven forward speeds through the electric transmission, all of these being obtained through the small controller lever referred to. There is no neutral position between these speeds.

What is known as high speed is used for all ordinary running, and it is only on steep grades that lower speeds are used. In the lower speeds an electric motor on the propeller shaft assists in driving the car, this motor receiving its electric current direct from the generator, which corresponds with the clutch, a storage battery not being necessary to supply the current. There is a direct



1—Although a low gear is provided, even "roads" like these were negotiated without using it. 2—The five cars which were driven in the demonstration. 3—At the top of a long steep rise which would tax any car. 4—Seas of mud and deserts of sand were included in the demonstration

drive on all speeds, the only difference between the high and lower speeds being that there is greater slippage between the fields and armature of the electric generator on lower gears than on high.

On high the slippage is approximately 40 r. p. m. when the gasoline engine is operating at 1,000 r. p. m. In other words, on a level road the gasoline engine works at 1,000 r. p. m., let us say, and the propeller shaft is revolving at 960 r. p. m. In this speed the electric motor on the propeller shaft is not assisting in driving the car.

On the lower speeds there is greater

slippage between the gasoline engine and the propeller shaft, but on these speeds the electric motor is assisting the gasoline engine in driving. These changes are all taken care of automatically; the only work the driver has to do is to move the controller handle and regulate the throttle of the gasoline engine.

The cars are provided with an emergency low-gear ratio between the gasoline engine and the rear axle which is controlled by a lever. This lower ratio was not needed on the entire trip, which demonstrated that it is practically not necessary for ordinary touring.

show in this part of the country at any other time, as we have to depend upon our farmers for the best part of our business, and if we held it at a time that they did not have money or were gathering their crops the show would be a failure.

Trusting that the above will answer and assuring you that I am more than willing to help you in any way that I can, I am,
Austin, Texas.

C. L. Pate.

Favors September Show

We are in favor of September as the show month, as most all factories announce their new models from August to the latter part of September and this gives the people a chance to see the new models as they are announced. We also think it a good plan to have the automobile show in with the annual fairs. People will take time to go to them and will also see the new cars, as this we think is the ideal time and place to show them.

Winneconne, Wis.

Williams & Richardson.

Geo. Weber, St. Louis, says:

"I am in favor of holding automobile shows in February, because that is the beginning of the season and the time when the best trade is to be had. The only reason the St. Louis automobile show is not held in February is the fact that there isn't a building big enough here for a winter show. The St. Louis show is held in October because that is the very latest time of the year at which an al fresco show can be held."

January Best Month

We believe that January is the best month of the year for the show in our section of the country. The months of November, December, January and February are the slow months for us, and with the show around the middle of January it causes the buying public to again get interested in cars and gives the salesman a chance to get his prospects lined up for his spring work. The show is generally held in Milwaukee in January, and we have always found that it is a great help toward our sales in the early spring.

Wells Garage Co.,

Milwaukee

L. H. Blaney.

Our show always is held about the middle of March each year and we find that this is the best time of the year for the show, it being in the opening of the season and 75 per cent of our sales are made to the farmers and consequently it is the time of year he is planning on buying a car and just the time of year when he has the time to attend the show.

Cedar Rapids, Ill.

Jas. A. Lattner.

When Shall We Hold the Local Show?

Problem Hinges on Date of Announcements, Says One Dealer, and Offers a Plan—Opinion Much Divided

THE problem of when to hold the local show is a very vital one and requires careful thought. Here is a plan which is offered as a solution. What do you think of it?

I want first to express a very hearty approval of the policy of your magazine and in particular your efforts to solve this perplexing problem. We consider Motor World a very essential part of our office files.

The present condition existing in the trade absolutely nullifies the benefits that might be expected from a local show. The announcement of new models is made so prematurely that it slows up late spring sales and the inability of the factories to make reasonably prompt deliveries following the announcements involves the dealer who maintains an established place of business in very material financial loss. The closest study of the situation has failed to disclose one near argument to justify a minimum production at the peak of the selling season.

There are a lot of flimsy excuses proposed that are mighty weak. No wise dealer would object to stocking cars either during the selling season or before, if he had any assurance of being in position to deliver stock when sales were at the maximum. Among many dealers one finds the harshest spirit of criticism respecting factory policies. It is not infrequently that the dealer thinks factory treatment is based on the slogan "To h— with the dealer. Get the money."

Overhead Expense Is Heavy

All of this arises from pressure brought to bear on the dealer during the period of depression in sales to compel him to take continued winter shipments. This produces a heavy overhead expense and consumes a lot of energy that should be directed toward promoting income activities.

It is my opinion that the following program would result in greater business for factory and dealer:

First—Sale season to conform more nearly with calendar year, i. e., 1915 cars in 1915.

Second—Plan a clean-up of current models by the last of September for sales during late fall.

Third—Announcement of ensuing year's product about the middle of November. Delivery of demonstrators to dealers before January 1.

Fourth—National shows beginning about Christmas week, or as at present.

Fifth—Local shows to follow National shows after an interval of four to six weeks.

Sixth—Factory to reach maximum production in May and June.

There must, of course, be a period of inactivity from a production standpoint, to allow

for the annual taking of stock, installation of new machinery, and other readjustments of factory facilities preparatory to the coming year's production. There is yet to be heard one real reason why this period should not occur during the period of inactivity of the dealer's sales department.

Can Control Situation

The reason for the present condition is apparent to any one who has given serious thought to the subject, but the sentiment of the market favoring standard cars by established factories of well known stability and integrity indicates conclusively that the leading manufacturers can control the situation to such an extent that the "fly-by-night" factories can be entirely disregarded.

I wish you success in your policy to make the merchandising of automobiles and accessories "a bigger and better" business with the accent on business.

Urbana, Ill.

J. C. Thorpe.

In answer to your question as to the best month for the automobile show in this section of the country, will say that I believe that October is the best. On account of the farmers having gathered their crops by that time, and having received their money on same, they are more likely to attend at this time of the year. Will also say that it would be folly to hold a

You

have not voted yet. Motor World wants your vote on this question. With your vote send a letter setting forth your reasons for choosing the particular month you favor.

Remember

This is a vote for the month in which to hold your LOCAL SHOW—not the National events in New York and Chicago.

Vote Here—Tear Out—Mail

Motor World,1915
239 West 39th St., New York

I am in favor of holding the annual show in the month checked.

<input type="checkbox"/>	SEPTEMBER	<input type="checkbox"/>	JANUARY
<input type="checkbox"/>	OCTOBER	<input type="checkbox"/>	FEBRUARY
<input type="checkbox"/>	NOVEMBER	<input type="checkbox"/>	MARCH
<input type="checkbox"/>	DECEMBER	<input type="checkbox"/>	APRIL

Signed

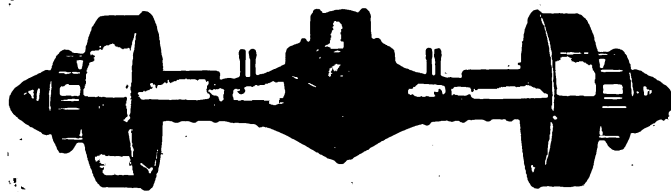
Position

Company

Address

Ball Bearing Worm Sheldon

New Axle for 5-Ton Vehicles Incorporates
Rear Wheel Brakes



Compactness and substantial construction are features of the new 5-ton Sheldon axle

A NEW worm-gear axle for trucks of 5 tons capacity has been brought out by the Sheldon Axle & Spring Co., under the model number W-50. It is designed for a tire load of 18,000 pounds, including the weight of chassis, body and pay-load. The axle, like all other Sheldons, is semi-floating.

A feature of Sheldon axle practice which is carried out in the new design is the use of ball bearings to take both the radial and thrust loads in the worm gear carrier. The thrust is taken by a self-contained double-acting bearing and the radial load by two single row annulars. The differential is mounted on single row annular bearings while the side thrust, differential and axle shaft are taken by separate thrust bearings. Either double row annular ball bearings or straight roller bearings may be used at the wheels.

As in all other Sheldon worm gears, braking is done at the rear wheels rather than on the propeller shaft. The tread is 74½ inches with maximum spring center distances of 49 inches with 4-inch springs. The housing and brake spiders are hydraulically pressed on nickel-steel tubing and riveted. The axle shafts are tapered to give a structure of uniform strength. The shaft diameter is 3¾ inches at the outer bearing and the taper runs from the bearing collars to the differential. The shaft is of 3½ per cent chrome-nickel steel heat treated to bring out the desired qualities.

Double internal band brakes of what are known as the self-intensifying type are employed and are 3 inches in width and lined with Raybestos. They act on

24-inch cast steel drums with bearing surfaces machined.

Steel against bronze is used for the worm and wheel. Worms and wheels are tested to 0.0001-inch for accuracy, so that interchangeability of worms and wheels is assured.

The housing ends are bell-mouthed to resist distortion due to the hydraulic pressure when mounting the tube. Another precaution is in the flanging of the outer ends of the wheels, where ribbing is placed to prevent damage in case the truck is driven against a curb.

The wheel bearing housings are made in box sections. Referring to the illustration, it will be noted that D and E are double nuts. The function of E is to take the key B against the bearing F and tighten it against the shoulder on the driveshaft A. This prevents the possibility of the bearing moving laterally on the driveshaft and producing a pounding action on rounding corners. The nut D is merely to tighten the hub on the conical part of the shaft. Both of these nuts are locked with cotter pins. The inside nut E, which tightens the key, is slotted and sometimes serves the purpose of a locknut. This device eliminates any necessity for clearance between the bearing and hub, as shown at G.

The W-50 model is also provided with a wheel puller attachment, as indicated in the drawings. The operation of demounting a wheel from this 5-ton axle consists in removing the hub cap, taking off the wheel retaining nut, replacing the hub cap, and giving a few turns to the wheel removing stud which accompanies the axle. When the wheel has been re-

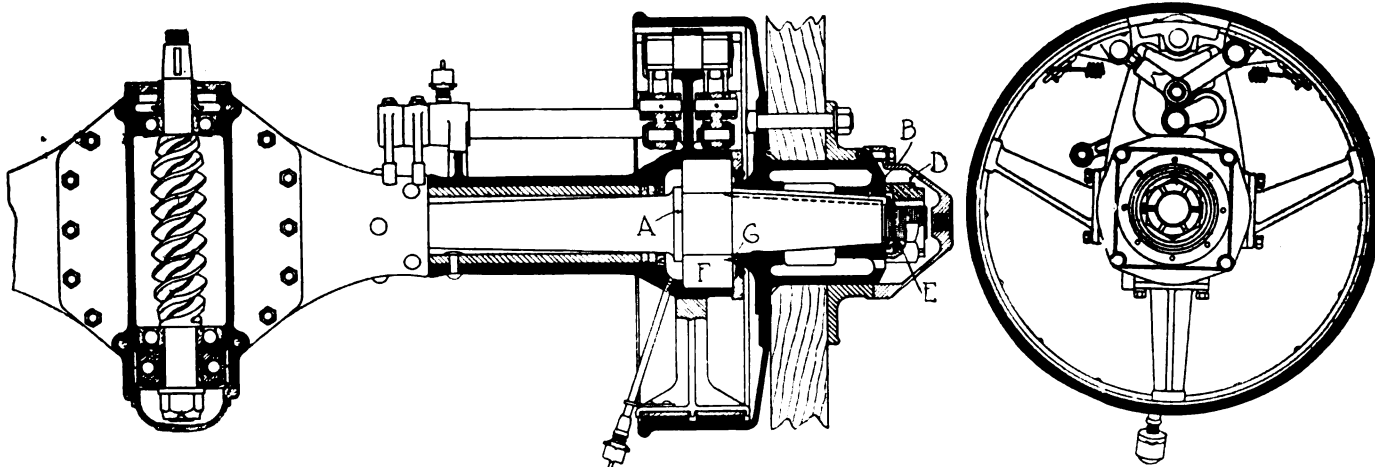
moved the bearings remain undisturbed and protected in their housing. Tie rods and ribs are not used.

The distance from the center line of the axle to the lower end of the axle housing is 9½ inches, providing 10½ inch road clearance with 40-inch wheel. There is a 1¾-inch clearance between the center lines of the brake arms, which are 7 15/32 inches from center of the brake arm and tie rod hole to the center line of the axle.

The worm gearing and the differential are mounted on a complete unit designated as the worm carrier. The entire working unit is not only mounted in a unit, but it is so constructed as to be free from any adjustment of these parts, such as would make it unsafe to have one of these worm gears dismantled in any first-class garage and reassembled. In fact, there are no adjustable parts in the unit.

White Motors Gets Chalmers

NEW HAVEN, September 25—The White Motors Co. has been appointed Chalmers distributor for New Haven county with the exception of Meriden. In addition to the Chalmers the company handles White pleasure and commercial cars and Buick pleasure and commercial cars. In order to take care of the increased business the company has engaged the service station which was operated by the W. A. Maynard Co., former Chalmers dealer, where service will be extended not only to local Chalmers owners, but also to any local White and Buick owners, as well as transient owners of these cars.



Simplicity of construction and the ease with which adjustments can be made characterize the latest Sheldon axle; there is a wheel-pulling attachment made integral with the axle

Cadillac Eight Betters 72 m.p.h. on Speedway

Covers 100 Miles in 82 Minutes 46 Seconds and Does 72.41 Miles in 1 Hour—Tests Made Under A. C. A. Supervision

DETROIT, September 27—In a test run just made on the Chicago speedway, under the supervision of the Automobile Club of America, an eight-cylinder Cadillac touring car, fully equipped and carrying a spare wheel and tire, covered 100 miles in 82 minutes 46 seconds, or at an average speed of 72.49 miles per hour. Windshield and top were down. The fastest lap was made in 1 minute 38½ seconds, or at a speed of 73.17 miles an hour, a new record for touring cars.

Two cars were tested, one a new car out of regular production which had never been run prior to being driven to Chicago from Detroit. It had covered 345 miles when the tests began. The other car had been used for experimental work, but the first made the better time.

Both cars were put through 100-mile runs, and their performance was strikingly uniform, the new car beating the older one by 1 minute and 30 seconds for the hundred miles. Each car was also given a one-hour test, the new car traveling 72.41 miles in that period, which was 1.35 miles more than the other ran in an hour.

The older car traveled the 100 miles in 84 minutes 16¼ seconds, or at the rate of 71.19 miles an hour. The two cars made a total of 200 miles in 167 minutes 2¼ seconds, also a touring car record for this country. The drivers were members of the Cadillac organization.

Trailers Coming From Marshall

MARSHALL, MICH., September 23—The Page Bros. Buggy Co., which has been in the vehicle business since 1869, has recently placed upon the market four models of trailers. Model A and B are 750 pounds capacity, but while the former has 1½ x 5/16-inch round edge steel tires and costs \$40, the other model is equipped with 1½-inch solid tires, the price being \$50. Both have the same kind of body, 38 x 32 inches, with 7-inch side boards and 4½-inch flare boards. Sheldon axles and springs are used. Both models C and D are listed at \$75 and are 1,250 pounds capacity, 1¾-inch solid rubber tires on artillery wheels being used. The former model has 7-inch straight sides, but model D has 11-inch straight sides. A discount of 30 per cent is allowed to dealers.

France Increases Import Duty

PARIS, FRANCE, September 27—Special Cable—On good authority it has

been declared that France will shortly follow the lead set by England by declaring a duty of 45 per cent on all American cars sold into France or its possessions. America has a tax of 45 per cent on French automobiles imported costing over \$2,000 and 30 per cent under \$2,000. The present action of France exactly reverses the situation of a few years ago. At present the duty on American cars entering France is 75 francs per 100 kilos, or \$15 for every 220 pounds. On the 45 per cent basis this duty will be nearly \$700 for a 3,000-lb. car. The duty will not affect war orders of trucks or motor cars, but will have a serious effect on American manufacturers retaining agencies in France.

Splitdorf Purchases Sumter Plant

NEWARK, N. J., September 24—The purchase for \$1,000,000 of the Sumter Electrical Co., Sumter, S. C., by the Splitdorf Electrical Co. has been closed. This new plant will be used to produce magnetos of every type, including low-tension types for use on stationary, marine and tractor engines. The company is building nearly 1,500 Dixie magnetos a day.

Dimmer Law Includes Trolleys

MINNEAPOLIS, September 25—A headlight-dimming ordinance was passed yesterday and through the efforts of the Minneapolis Automobile Trade Association the headlights of street cars are included, within the downtown and more thickly populated sections and where motor car traffic is heaviest. The ordinance as originally drawn did not cover street cars. The penalty is \$25. No particular device or type or device is required. This will be left to the police department. The ordinance becomes effective November 1. The effort to include street car lights was made because the lights used in this city are very bright and are blinding to the driver of a motor car.

Studebaker Sedan Top at \$150

DETROIT, September 27—The Studebaker Corp. is now offering a new convertible Sedan top at \$150. The top is easily applied to both four- and six-cylinder models and weighs but 75 pounds more than the touring car top. The glass of the windows and panels is removable and when in place the top is wind-, water- and weatherproof.

Pathfinder Adds to Directors

INDIANAPOLIS, September 27—Following a considerable increase in business, the Pathfinder company has found it expedient to enlarge its organization and to this end two new names have been added to the board of directors. These are W. E. Stalnaker and George H. Mosher.

Texans Can Buy Gasoline Now on Sunday Morning

Old Blue Law Which Forbid Sale of Fuel After 9 A. M. on Sunday Set Aside—Ruling Affects Only Some Small Towns

AUSTIN, TEX., September 25—According to a ruling of the State Attorney General's Department, gasoline is a "provision and a domestic necessity," and as such it can be sold on Sunday mornings up to the hour of 9 o'clock. One of the state's blue laws permits the sale of certain foodstuffs, produce and milk before 9 o'clock in the morning on Sundays. While gasoline is not mentioned in the law, the attorney general holds that it comes within the exempt provisions. However, the enforcement of the so-called Sunday law as to gasoline and other articles and goods is confined to only a few towns of the state. In all the larger cities gasoline is sold all day long. The request for a ruling on the sale of gasoline came from the county attorney of Hays county at San Marcos. In a few of the towns of the state it was impossible to buy gasoline at all on Sundays and it is expected that the new ruling of the attorney general's department will somewhat relieve the situation as to the dealers in those places.

Dry Climate Tire Starts Work

DENVER, September 24—The Dry Climate Tire Mfg. Co., a new \$200,000 Colorado corporation, started its Arvada factory yesterday. A force of 25 men are preparing compounds and fabric and the concern expects to be turning out tires for the trade next week. The company expects to have two or three shifts of 50 men each at work within a few weeks. With this force and the present equipment the plant will have a capacity of 100 casings and 350 tubes every eight hours. The new concern aims to reach about 10 states in the Rocky Mountain territory and has a special process of curing and compounding designed to increase the life of tires in this dry region. The factory is located seven miles from Denver, with good shipping facilities.

Expect 300 at Firestone Convention

AKRON, September 27—It is expected that more than 300 representatives of the Firestone Tire & Rubber Co. will be present at the annual convention which opens at the plant September 28 and continues the two following days. Firestone men from all over the country will be present and will attend general conferences at which they will be addressed by company executives and branch managers. Considerable time will be devoted to a study of factory methods.

Association News

PHILADELPHIA DEALERS PLAY

PHILADELPHIA, September 25—Approximately 100 persons attended the outing of the Philadelphia Automobile Trade Association, held at the North Hills Country Club, Edge Hill, Pa., September 21. The outing was one purely of enjoyment and for the time business was entirely forgotten. Included in the program for the day were the annual golf tournament, baseball, tug-of-war and other athletic games. In the evening, after dinner, very interesting and instructive motion pictures were shown, preceded by a little vaudeville.

Luncheon was provided at an open-air buffet, to which those in attendance did justice. This was given at a farm house about a mile from the club.

In the golf tournament Greenwood, with a handicap of 30, negotiated the 18 holes in 104, making his score 74. Coale finished second. He was handicapped 20 and had a score of 75. There were 16 other contestants. All tried for the Herbert trophy, and the winner is still wondering where it is located.

For the baseball game, nine were selected from the east side of Broad street and nine from the west side, by which the two teams were known. The west side won 8-5. The lineup follows:

East Side—Graham, c.; Herbert, 1b.; Rosen, p., ss.; Parker, 2b.; Ramey, 1f.; Eveland, cf.; Greenwood, rf.; Eastman, ss., rf.; Steyer, ss., cf.; McPhenan, 1f.

West Side—Stimson, p.; Gilchrist, 1b.; Gunrey, 2b.; Wright, 1b.; Palmer, 3b.; Housewicht, c.; E. C. Johnson, 1b.; Pierpont, cf.; Haines, rf.; Hoffman, rf.; Shade, ss.

Those in attendance included:

President W. P. Herbert (Chandler), Secretary J. E. Gomery (Hudson), Assistant Secretary Chas. D'Ossone, Assistant Secretary W. R. Groves, H. M. Coale (Autocar), Guy Willey (Paige), Lee S. and Chas. H. Bowers (Cole), M. J. Laroche, A. W. Laroche (Velie), O. E. Bell (Cartercar), G. R. Wright (Chevrolet), L. J. Eastman (Packard), Louis C. Block (Ford), R. W. Cook (Peerless), R. D. Willard (Mitchell), E. J. Johnson (Reo and Premier).

J. H. Johnson (Haynes), J. M. Niskey (King), A. Paul Oliver (Mercer), Rodney S. Pullen (Milburn electric), P. S. Johnson (Oakland), W. Sprangle (Overland), W. H. Bartleman (Regal), Geo. W. Bradshaw (Pierce-Arrow), Geo. W. Brookes (Packard), Ed. W. Burnshaw (Peerless), Geo. E. Conrad (Winton), R. W. Brouse (Goodrich tire), C. R. Cunliffe (Cadillac).

E. E. Devlin (Buick), F. E. Devlin (Hudson), J. B. Dickson (Cadillac), O. W. Doolittle (Pierce-Arrow), J. C. Dunsmore (Buick), Harry Greenwood and Robert Greenwood (Overland), A. L. Hagerman (Studebaker), Benj. F. Hoffman (Ford), Louis S. Julian (Packard), Garfield List (U. S. tire), A. Krimmel (Republic tire), Chas. W. Loyd (Reo), J. H. and W. B. McCullough (accessories).

W. H. Metcalf (Woods electric), Geo. Parker (Chandler), E. C. Phelps (Colonial tire), Robert

R. Ramey (Chandler), John H. Rosen (Packard), J. C. Schwartz (Hudson), H. A. Wilson (Winton), E. M. Stimson (Miller tire), Geo. W. Hipple (Carl H. Page Motors Co., N. Y.), J. R. Pierpont (Reo), H. H. Doering (Rauch & Lang), Harry R. DeGroat (Studebaker).

A. E. Maltby (Winton), S. J. Gilchrist (Fisk tire), W. R. Walten (Firestone tire), James L. Gibney, Geo. A. Simpson (Goodrich tire), H. P. Shade (Bearings Co.), Geo. D. Widner (Stewart), F. W. Eveland (Stevens-Duryea), Raymond P. Alford and Walter B. Alley (Cadillac), J. H. Barnes, Jr. (Chevrolet), James A. Bradburn (Goodrich tire), Samuel W. Sternberg (Motor World).

NATIONAL MARKET REPORT

CHICAGO, September 27—The Chicago Automobile Trade Association is at present actively engaged in collecting data and preparing it for insertion in the seventh edition of the National Used Car Market Report, which will go to press about October 15. In the meantime the association is sending out sales slips and forms to all of its various members, requesting specific information on the prices of used cars sold during the current three months. The bulk of the information from which the report is prepared is obtained from its association membership and so that the report may be as complete as possible Assistant Secretary T. D. Beard urgently requests

Wants a National Dealers Association

Editor Motor World:

We believe there is a great need for an affiliation of some kind between the various automobile dealers organizations of the United States for the purpose of working out the many serious problems confronting the automobile dealer and for regulating the various abuses of the business.

That much could be accomplished by such an affiliation cannot be disputed. Every automobile dealer in the country realizes that there are many things harmful to the business that his own local association cannot correct by itself, but if all the associations could get together it would not be a very difficult matter to discover a remedy which would be successful.

It would seem that it would not be an impossible feat to arrange to have a delegate from each of the local associations of the country meet at some convenient time and place and organize such an affiliation or federation as above suggested. A headquarters could then be established under the supervision of a competent management and at a comparatively small expense, and work could then be accomplished which, we believe, would repay many times over the expense and labor expended by the various organizations in the maintenance of such headquarters. This is merely a suggestion. We realize that there are many phases to so large a subject and we would like to hear expressions from others interested in the automobile business as to whether or not such a federation seems feasible and as to how such might be organized.

We feel that, at the present time, a federation of the already existing local organizations would be more

feasible than a strictly National Dealers Association composed of automobile dealers of the United States. To organize a National Dealers Association would be, at the present time, a stupendous task, but it should not be so great an undertaking to arrange a federation as above suggested, and such an organization would be a stepping stone to the larger and possibly stronger National body of dealers, as it would demonstrate what can be accomplished by the united effort of local associations.

As an example of the need of something of this kind we will refer to the proposed war tax of 50 cents per horsepower on automobiles in 1914. Where would we have been if the National Automobile Chamber of Commerce had not taken the lead and the brunt of the load in getting this tax killed? The answer is simple; we would be paying the tax today. There are many abuses that need correcting that do not particularly interest the Chamber, and they cannot be expected to take the lead in their correction. Who, then, will take the lead? No one. The distributor and dealer will go on carrying the load of these same abuses, kicking like a "bay steer" about them, but doing nothing effective to rid himself of them. Let's get together and work to our common good and to the good of the automobile business by getting a strong federation under way before we get into the "rut." Think it over carefully and let's have an expression of your opinion on the subject.

R. B. Simning, Asst. Sec'y,
Minneapolis Automobile Trade
Association.
Minneapolis, Sept. 24.

that every dealer association and every subscriber for the service make every effort to forward data at the earliest possible moment. Up to date some 30,000 sales slips have been distributed, and it is expected that there will be a return of at least 75 per cent. The particular information which is being collected at present is a record of sales of used cars between June 21 and September 21, inclusive. The sales slips which are used have no provision for any signature of the dealers forwarding them, this being omitted purposely in order to avoid any hesitation on the part of the dealer to making public sales figures.

NEW HAVEN TO HAVE SHOW

NEW HAVEN, September 27—Although it was hoped that action with regard to the holding of a show would be taken at the meeting of the New Haven Automobile Dealers Association, held September 21, it was found necessary to put the matter over until the next meeting, which is to be held the third Tuesday in October. It is likely that at this meeting there will be some discussion regarding the proper time for manufacturers to make yearly announcements of new models.

DEALERS MANAGE SHOW

GRAND RAPIDS, September 27—At the last meeting of the newly-elected Advisory Board of the Automobile Business Association of Grand Rapids, E. T. Conlon, secretary of the association, was elected to assume the responsibilities of manager of the next show, which is to be held some time in February. For the past six years the show has been conducted by a local newspaper, but hereafter will be conducted by the dealers association.

MONTREAL FIGHTS FINES

MONTREAL, September 27—The Montreal Automobile Trade Association is at present prosecuting an active campaign in an endeavor to eliminate promiscuous fining of members of its association and others who recently have been arrested in various sections of the King Edward Highway and charged with exceeding the speed limit. Members of the association believe that they are being unlawfully fined and will conduct an investigation at a special meeting of the association which is to be held in the near future.

KANSAS CITY TOUR

KANSAS CITY, September 27—Nelson S. Riley was elected president of the Kansas City Motor Car Dealers Association at the annual meeting held September 29, other officers elected being as follows: Vice-president, Wm. J. Brace; secretary and treasurer, E. E.

Peake; directors, W. E. Mallory, George A. Bond, Estell Scott, E. F. Williams, H. J. Kirkland, A. M. Norton, H. J. Bruening. Arrangements are fast nearing completion for the annual trade tour of the association, which is to be held the week of October 11. It is expected that at least 35 cars will make the trip. The route selected is through southwestern Missouri and returning through southeastern Kansas, a total mileage of about 450 as against 600 for last year's trip. Practically all of the running will be done at night so as to leave the daylight hours free for sales propaganda. The pathfinding car leaves Kansas City today.

EARLY ANNOUNCEMENTS

KANSAS CITY, September 27—The Kansas City Motor Car Dealers Association has put itself on record as favorable to an announcement of new models January 1 by all manufacturers. A resolution to that effect was adopted by the association at its most recent meeting without opposition. The meeting was held for the election of officers and there was a very large attendance. The consensus of views was that the present plan of making these announcements at uncertain and irregular dates causes confusion and the change proposed is in line with the sentiment of automobile dealers throughout this part of the country. The association fixed the date of the next automobile show for February 7, 1916. Nelson W. Riley was chosen president; William Brace, vice-president, and the following were made directors: W. E. Mallory, George A. Bond, Estell Scott, Chas. A. Williams, H. G. Kirkland, A. F. Norton and Henry Bruening. E. E. Peake will, it is understood, continue as secretary-treasurer.

ELECTRIC MEN DISBAND

CHICAGO, September 28—The Electric Garage & Dealers Association, which was formed a short time ago, was disbanded last night at a meeting held in the hotel Metropole. Soon after the formation of the body, an effort was made to join it to the Chicago Garage Owners Association as a section, but dissection arose. The garage association foresaw a possible change in name being necessary and objected to the electric men coming in as a section, holding they must come in as individual members. The Anderson Electric Car Co. and three others withdrew at the meeting last night, and it was voted unanimously to disband and join the Electric Vehicle Association. The funds remaining in the treasury were turned over to charity.

LAST MONTREAL RUN

MONTREAL, September 25—The Montreal Automobile Trade Association will hold the last run of the season to

Plattsburg on Sunday, October 3, leaving Windsor Hotel at 9 a. m. sharp. R. F. Girdwood has been appointed as pilot and service cars will accompany the round trip fully equipped for any emergency. The route will be over the entire length of the King Edward Highway. An official luncheon and dinner is being arranged.

RHODE ISLAND SHOW

PROVIDENCE, September 27—The Rhode Island Automobile Dealers Association will hold its annual show November 12-20. The event will be staged in the state armory.

PHILADELPHIA PAINTING POLES

PHILADELPHIA, September 27—The Philadelphia Automobile Trade Association is having poles painted between Trenton and this city and Coatsville over the Lincoln Highway, with the regular red, white and blue markings.

PHILADELPHIA SHOW

PHILADELPHIA, September 24—A special meeting of the Philadelphia Automobile Trade Association is to be held within the next few days for the purpose of arranging details of the forthcoming Philadelphia show.

D'OSSONE IN PHILADELPHIA

PHILADELPHIA, September 27—Charles D'Ossone, of New York, has come to Philadelphia to assume the duties of assistant secretary of the Philadelphia Automobile Trade Association, to which he was appointed on the recent death at Chatham, Mass., of H. Warren Terry. D'Ossone will remain until after the local show at least, and possibly may be permanently retained.

Gold Medal For Westinghouse

SAN FRANCISCO, September 24—The Westinghouse Electric & Mfg. Co., East Pittsburgh, has been awarded the gold medal at the Panama-Pacific International Exposition for its electric lighting, starting and ignition systems. It has also received the grand prize for a number of its other products.

Timken Making Extensions

CANTON, O., September 25—The Timken Roller Bearing Co. will greatly enlarge its plant through the erection of several new buildings. One of the first extensions started is that to the present grinding room, which when completed will be one of the largest in the country.

Denver Reliability Called Off

DENVER, September 25—After being postponed twice on account of recent obstacles, the 860-mile economy and reliability run scheduled to start from Denver through the Colorado Rockies September 6, was finally called off.

Prominent Men of Trade Who Assume New Duties

**Resignations and Promotions That Serve
to Place Many Workers in New
Places—Few of Them Leave
the Industry**

Jerome Fanciulli, sales manager for Miller Bros., has resigned his position with that firm to accept a similar position with the Koehler Motor Co., Richmond, Va.

Frank R. Guyon has left the American Ball Bearing Co. to become assistant manager of sales for the Elyria Iron & Steel Co. The executive offices of the Elyria concern have recently been moved to a new tube factory in Cleveland.

Homer McKee, formerly advertising manager of the Cole Motor Car Co., Indianapolis, and since that time Indianapolis representative of the Mahin Advertising Co., has become associated as vice-president of the Russel M. Seeds Co., Indianapolis.

Lyman T. Yancey has been appointed manager of the service department of the Columbia, Mo., branch of the Hudson-Phillips Motor Car Co., Hudson and Grant dealer.

F. A. Wickham has resigned as manager of the Minneapolis branch of the Studebaker Corp. and is planning to organize a company in Minneapolis to handle tires.

E. H. Hohenphal has been appointed assistant sales manager and advertising manager of the Simms Magneto Co., East Orange, N. J.

J. V. Thomas, who has been associated with the Moline Automobile Co., East Moline, Ill., for the past year, has resigned. He is succeeded by D. N. Beal, who has been manager of the company's Omaha branch.

W. H. Van Deusen, formerly in charge of the wholesale department of the A. Elliott Ranney Co., New York, and since June wholesale manager for the Carl H. Page Motors Co., is again associated with the Ranney company in charge of the wholesale distribution of King cars.

Thomas E. Curtin has resigned as sales manager of the Columbus Cadillac Co., Columbus, O., to engage in business for himself.

R. T. Fisher has retired from the Campbell-Fisher Sales Co., Columbus, O., Madison distributor, and will devote his time to other interests. H. B. Gilchrist, vice-president of the company, will assume the duties of secretary and treasurer.

R. H. Patten has resigned his office as vice-president and general manager of the Buse-Patten Motor Car Co., Buffalo,

N. Y. **Gustave Buse** will succeed him in the management of the company, which distributes Grant, Hupmobile, National and Moon cars in western New York.

Ira S. Barnett, until three weeks ago president of the Kentucky Automobile Co., Louisville, Ky., Cadillac dealer, has been appointed factory representative of the King company in Kentucky and southern Indiana, with headquarters in Louisville.

Wayne Burbank has been appointed district sales manager for the states of Arkansas, Louisiana and Mississippi by the Saxon Motor Co.

R. A. Whitney who has been identified with the Regal line in southern California for some time, has been appointed sales manager of the Colyear Motor Sales Co., Los Angeles, newly appointed Regal distributors for southern California and Arizona.

F. E. Wright, formerly with the Studebaker Corp., has been appointed sales manager of the Saxon Motor Sales Co., with headquarters in Los Angeles.

J. R. Cooper, formerly factory representative for the Willys-Overland Co. in Kansas City, has been made manager of the truck department of the Overland branch in Topeka.

E. H. Beltzig has been appointed office manager, not manager, of the St. Louis branch of the Firestone Tire & Rubber Co.

Harris Made Mutual Vice-president
JACKSON, MICH., September 27—**Frederick A. Harris**, who recently resigned as commercial manager of the Hupp Motor Car Co., Detroit, has acquired a substantial interest in the Mutuals Motors Co., and at a meeting of the directors held last week was elected vice-president of the company.

Foss Pierce-Arrow Commercial Manager
PHILADELPHIA, September 27—**W. J. Foss**, who with A. E. Hughes has

conducted the Philadelphia branch of the Pierce-Arrow company, will on October 1 resign his position as treasurer of the Foss Hughes Co. to become the commercial manager of the company at Buffalo. In his new position Foss will be given charge of all commercial activities of the company, including the sales, advertising and service.

Abandon Indianapolis 100-Mile Race

INDIANAPOLIS, September 27—The invitation 100-mile race which was scheduled to be held on the Speedway here, October 9, and for which the Automobile Association had granted a sanction, has been declared off. It is believed the cause for the abandonment of the contest was the objection of De Palma and Resta to competing against more than one car of the same make in this event. As a preliminary to the race a 100-mile event for Ford cars had been planned, and though this has been abandoned as well it may be revived.

Two New Men in Blood Bros.

ALLEGAN, MICH., September 25—**L. H. Mittingly** and **F. I. Chichester** have been appointed members of the board of directors of the Blood Bros. Machine Co. Chichester is president of the First National Bank and Mittingly represents among other interests those of the Kalamazoo City Savings Bank, Kalamazoo. Mittingly is managing director of the company.

Wants Cars for New Zealand

NEW YORK, September 28—**Eric Stanley Pees**, head of the Nonpareil Cycle & Motor Co., New Zealand, has just arrived in this country in quest of a complete line of cars for his territory. He will devote sufficient time to his subject to obtain the most desirable lines of cars and accessories. Manufacturers desirous of establishing well-rated connection in the New Zealand market may address Mr. Pees in care of Thomeson & Co., 90 Wall street, New York.

Dealer Factory Visitors of the Week

SAXON MOTOR CO.

M. Sutherland, Higgins Motor Sales Co., Saxon
W. H. Bose, Dallas, Tex.
C. Rogers, Knoxville, Tenn.

STUDEBAKER CORP.

Aaron De Roy, Aaron De Roy M. C. Co.,
Pittsburgh
A. Ward LaFrance, LaFrance Gar., Elmira, N. Y.
A. Weber, St. Louis
Fred Perkins, Capital City A. Co., New Orleans
Henry Neubauer, Philadelphia
Wayland Wood, Arizona M. C. Co., Phoenix, Ariz.
J. L. Berg, St. Louis
L. Markle, Chicago
Charles H. Goodwin, Providence
F. H. Peck, Grand Rapids, Mich.
H. W. Blevins, Blevins A. S. Co., Toledo
Frank B. Donovan, Boston

PAIGE-DETROIT MOTOR CAR CO.

W. C. Absalom, Montgomery, W. Va.
W. V. Faunce, Interstate A. Co., Youngstown, O.
R. C. Heckinan, Schieffer A. Co., Ft. Wayne, Ind.

J. R. Janskeski, Piqua, O.
E. L. Smith, Howell, Mich.
Herman Swift Griggs, Southern M. C. Co.,
Jacksonville, Fla.
E. G. Hayes, Flint, Mich.
G. D. Binder, Binder & Morrison, London, Ont.
Geo. L. Hanna, Boston
Ralph Wolfstyn, A. S. Hill, Fort Huron, Mich.
Earl Perrin, Connolly Mfg. Co., Sault Ste. Marie
C. K. Linsley, Bradford A. S. Co.,
New Haven, Conn.
S. D. Bolton, Bolton Auto Co., Saginaw, Mich.
C. H. Hoagland, Battle Creek, Mich.

FRANKLIN AUTOMOBILE CO.

Cowles Tolman, New Haven, Conn.
F. H. Sanders, Franklin M. C. Co., Chicago
O. H. Coolidge, Rutland Mch. & A. Co.,
Rutland, Vt.
O. C. Belt, Belt-Barr Motor Co., Columbus, O.
W. M. Davis, Forsyth & Davis, Kingston, N. Y.
J. C. Braly, Braly Auto. Co., Portland, Ore.
E. E. Bellows, Gray-Bellows Motor Co.,
Saranac Lake, N. Y.

Maxwell Motor Earnings For Year Top \$2,000,000

**Report for Fiscal Year Shows Increase
in Earnings of 61 Per Cent—Num-
ber of Cars Produced Shows
Big Increase**

DETROIT, September 24—The annual report of the Maxwell Motor Co., whose fiscal year ended July 31, 1915, shows net earnings of \$2,337,950.21, a 61 per cent increase, compared with \$1,430,445 in 1914. The total income, amounting to \$2,560,041, was \$789,618 greater than that of 1914, which amounted to \$1,770,424. After deducting \$256,726 depreciation, the surplus or net income amounted to \$2,303,314.41, equal to 18.75 per cent on \$12,279,932 outstanding first preferred stock, as against 12.26 per cent on the same stock in the previous year.

President Walter E. Flanders in his report to the stockholders stated that the net working assets of the company at the close of its second fiscal year were approximately \$7,165,000, as compared with \$5,933,000 at the close of the first fiscal year. The cash on hand is \$2,652,629, as compared with \$1,783,993 last year.

Following out the policy established at the time of its incorporation, the company has disposed of its remaining idle plant at Tarrytown, N. Y., and is, therefore, operating factories at Dayton, O., Newcastle, Ind., and Detroit.

The total volume of sales during the past fiscal year shows an increase of 62 per cent. The company manufactured and sold in August, 1915, 5,217 cars, as compared with 2,161 cars in August, 1914. Shipments in September, 1915, will probably exceed those of August, 1915.

The income account and balance sheet are given in the accompanying table.

Imperial Four Reduced to \$850

JACKSON, September 25—Taking effect today, the Mutual Motors Co., maker of the Marion and Imperial, announces that the price of the Imperial four will be \$850. This is a reduction from \$995, made effective July 1 this year and a reduction of \$235 since last season. The price of the Imperial six remains the same.

Remington Buys Vaughan Plant

KINGSTON, N. Y., September 24—The Remington Motor Co. has bought the plant formerly occupied by the Vaughan Motor Car Co. in Kingston. This plant has been idle for two years.

Detroit Office For Almond

DETROIT, September 27—The T. R. Almond Mfg. Co., Ashburnham, Mass.,

has established a branch office in this city at 1257 David Whitney building. Don F. Kennedy will be in charge with supervision over Michigan territory.

Fire Doesn't Stop American Chain

INDIANAPOLIS, September 27—The factory of the American High Speed Chain Co. was visited by a fire last week which resulted in damage estimated at about \$50,000. Fortunately the fire was confined principally to one floor and arrangements already have been completed whereby production will be continued without interruption.

Maxwell Financial Report

ASSETS		
	1915	1914
Real estate, buildings, machinery and equipment...	\$5,192,626	\$4,462,222
Investments	795,827	794,656
Good-will, patents, models, trade name.....	26,500,000	26,500,000
Inventories	5,146,902	4,588,972
Accounts receivable.....	596,119	428,496
Notes receivable.....	229,289	212,455
Prepayments	44,757	50,898
Due on sales contracts....	95,000	.....
Cash	2,652,629	1,785,992
Sight draft out for collec..	642,987	.....
Total	\$41,896,135	\$38,723,693
LIABILITIES		
First preferred stock.....	\$12,279,332	\$12,279,332
Second preferred stock...	10,127,468	10,127,468
Common stock.....	12,778,058	12,778,058
Real estate mortgages....	15,709	30,161
Accounts payable	1,134,150	619,598
Wages accrued	120,743	73,485
Taxes accrued	47,910	31,811
Customers deposits.....	296,421	206,596
Due on contracts.....	109,080	.....
Reserve for depreciation..	1,635,470	951,718
Reserve for contingencies.	50,000	100,000
Reserve for retirement of preferred stock.....	130,000	.....
Profit and loss surplus....	3,171,794	1,505,467
Total	\$41,896,135	\$38,723,693

CONSOLIDATED STATEMENT OF INCOME

Net earnings from operations after ded. cost of mfg., selling, adv.....	\$2,337,950	\$1,430,444
Other income.....	222,091	339,979
Total	\$2,560,041	\$1,770,424
Depreciation	256,727	264,956
Net income.....	\$2,303,314	\$1,505,467

Weldum Succeeds G-A Company

NEW YORK, September 24—Owing to difficulties created by the war, the Weldum Co., an American concern, has taken over the business of the German-American Aluminum Co., Berlin. The Weldum company, whose officers are practically the same as those who controlled the interests of the German-American concern in this country, are now manufacturing under the name Weldum a metal used for replacing welding in aluminum repair work by using practically a soldering process.

"Best Sellers" Prizes Are Awarded By Hyatt

F. E. Cerf, Chicago, Heads List of Winning Essayists in Contest for Best Selling Arguments—"The Six Best Sellers" Published

DETROIT, September 27—The Hyatt Roller Bearing Co. has made known the names of the winners in the contest which it recently promoted to determine the best talks on Hyatt bearings which salesmen are using to motor car prospects. The winners, who are listed in an attractive booklet entitled "The Six Best Sellers," are as follows: F. E. Cerf, retail sales manager, Ralph Temple Automobile Co., Chicago; Henry Crowther, vice-president Crowther Motor Co., Philadelphia; Albert Hoyt, Chevrolet Motor Co. of Illinois, Chicago; J. E. Staley, Holsman-Stevens Automobile Co., Des Moines, Ia.; Curtiss M. Betts, Mitchell Automobile Co., Chicago; L. S. Vaughn, Oklahoma-Oakland Co., Oklahoma City. In addition, prizes and special mention were awarded the following: A. R. Meyer, sales manager, Albaugh Motor Sales Co., Cleveland; G. A. Volbrey, Weber Implement & Automobile Co., St. Louis; Thomas A. Murphy, Ford Motor Co., Portland, Ore.; Edward Coyle, De Luxe Automobile Co., St. Louis; E. B. Valtzay, Warner Gear Co., Detroit; C. W. Ingrayn, Driggs-Seabury Ordnance Corp., Sharon, Pa.; J. A. Baird, General Motors Truck Co., Pontiac; T. M. Leahy, Mitchell-Lewis Motor Co., Racine.

New Departure Workers Continue

BRISTOL, CONN., September 27—More than 2,000 employes of the New Departure Mfg. Co. have returned to work after being on strike for five days. This manufactory has always been considered a good one for labor, and that a strike should even get a start has been the subject for comment. But entire Connecticut has been in the throes of labor agitation, and employes of the New Departure company somehow or other got on the crest of the strike wave, quit work, petitioned for 60 hours' pay for 50 hours' work and a 10 per cent increase in price scale. The company conferred with the leaders of the strike movement, explained its willingness to carry out an agreement of 57½ hours' pay for 50 hours' work, which had been decided upon earlier, refused flatly to grant the 10 per cent increase scale; showed the workmen how willing and anxious two cities in the Great Lakes section were to have the New Departure manufactory move from Bristol, and assured the striking employes that removal to one of these cities would result if the men did not go back to work.

MOTOR WORLD GUIDE

SPECIFICATIONS OF LEADING AMERICAN CARS BROUGHT UP TO DATE

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
ABBOTT-DETROIT												
K	4-4½x5½	32.4	Eismn	Zenith	A-Lite	Disk	3	116	34x4	1,785	.....	.....
L	4-4½x5½	32.4	Eismn	Zenith	A-Lite	Disk	3	121	36x4½	2,085	.....	.....
F	6-3½x5½	33.75	Eismn	Zenith	A-Lite	Disk	4	130	35x4½	2,190	2,190	2,290
H	8-3½x5	33.8	Remy	Zenith	A-Lite	Disk	3	121	35x4½	.....	.....	1,950
ALLEN												
37	4-3½x5	22.5	Walth	Stmbg	Walth	Cone	3	112	32x3½	795	795	.....
APPERSON												
6-60	6-4½x5	43.8	Remy	Rafid	Walth	Band	3	135	37x4½	.....	.....	2,350
6-16	6-3½x5½	23.4	Remy	Rafid	Walth	Band	3	122	34x4	1,485	1,550	.....
8	8-3½x5	31.2	Remy	Rafid	Walth	Band	3	128	34x4	1,850	.....	1,850
ARBENZ												
25	4-3½x5	16.9	.....	.....	.....	Cone	3	108	30x3½	.....	675	.....
ARGO												
1916	4-2½x4½	12.1	A. Kent	Argo	Disco	Cone	2	96	28x3	385	435	.....
AUBURN												
4-38	4-3½x5	24.0	.....	Rafid	.....	Cone	3	114	34x4	985	985	.....
6-40-A	6-3½x5	29.45	.....	Rafid	.....	Cone	3	126	35x4½	1,550	.....	1,550
AUSTIN												
96	6-4½x6	48.6	Walth	Master	Walth	Disk	6	141	31x4½	3,600	3,600	3,600
BAUER												
R	4-4½x5	36.1	Mea	Shblr	Emrsm	Disk	3	110	34x3½	875	1,000	.....
BRISCOE												
4	4-3-7-16x5½	18.9	A. Kent	Mayer	A. Kent	Cone	3	114	32x3½	750	750	.....
8	8-3 x3½	28.8	A. Kent	Mayer	A. Kent	Cone	3	114	32x3½	*950	950	.....
*Three-passenger												
BUICK												
.....	6-3½x5	33.7	Delco	Marvel	Delco	Cone	3	130	36x4½	1,450	.....	1,485
.....	6-3½x5	23.4	Delco	Marvel	Delco	Cone	3	115	32x4	950	985	.....
CADILLAC												
1916	8-3½x5½	31.2	Delco	Own	Delco	Disk	3	122	36x4½	2,080	2,080	2,080
CAMERON												
.....	6-3 x5	21.6	A. Kent	Zephyr	Apico	Cone	3	122	33x4	1,000	1,000	.....
CASE												
35	4-4½x5½	29.0	Bosch	Rafid	Walth	Disk	3	120	35x4½	1,600	.....	.....
40	4-4½x5½	32.4	Bosch	Rafid	Walth	Disk	3	124	37x4½	1,800	2,000	.....
25	4-3½x4½	22.5	Walth	Stmbg	Walth	Disk	3	115½	34x4	1,350	.....	.....
CHADWICK												
19	6-5 x6	60.0	Bosch	Own	Walth	Band	4	119	37x5r	5,500	5,500	5,500
CHALMERS												
6-48	6-3½x5½	29.4	A. Kent	Rafid	Entz	Disk	3	126	34x4½	.....	.....	1,550
M-6	6-4 x5½	38.4	Bosch	Rafid	Entz	Disk	4	132	36x4½	2,175	2,175	2,175
6-40	6-3½x5	23.5	A. Kent	Rafid	G & D	Plate	3	120	34x4	1,350	1,275	1,350
CHANDLER												
15	6-3½x5	27.3	Bosch	Rafid	G & D	Disk	3	120	34x4	.....	1,295	.....
CHEVROLET												
H-4	4-3 11-16x4	31.8	Conn	Zenith	A-Lite	Cone	3	106	32x3½	.....	750	.....
H-2	4-3 11-16x4	21.8	Conn	Zenith	A-Lite	Cone	3	106	32x3½	720	.....	.....
COLE												
4-40	4-4½x5½	29.0	Delco	Stmbg	Delco	Cone	2	120	35x4½	1,485	1,485	1,485
6-60	6-4½x5½	48.6	Delco	Stmbg	Delco	Cone	3	136	37x5	2,385	2,465	2,465
8	8-3½x4½	30.2	Delco	Stmbg	Delco	Cone	3	126	34x4½	1,785	.....	1,785
CRAWFORD												
6-35	6-3½x5	29.4	Walth	Stmbg	Walth	Disk	3	120	34x4	1,850	1,850	.....
CROW												
E-62	6-3½x5½	33.7	G & D	Shblr	Emrsm	Disk	3	130	36x4	1,895	1,895	.....
C.E. Jr	4-3½x5	19.6	Disco	Zenith	Disco	Disk	3	104	32x3½	.....	725	.....
CUNNINGHAM												
8	4-4½x5½	36.1	Bosch	Stmbg	Undec	Disk	3	129	37x5	.....	.....	3,750
DAVIS												
.....	4-3½x5	22.5	Delco	Stmbg	Delco	Cone	3	112	34x4	1,165	1,165	.....
.....	6-3½x5	29.4	Delco	Stmbg	Delco	Cone	3	124	34x4½	.....	1,495	.....
.....	6-3½x4½	25.3	Delco	Stmbg	Delco	Cone	3	120	34x4	.....	1,270	.....
DETROITER												
C	4-3½x5	19.6	Remy	Stmbg	Remy	Disk	3	112	32x3½	.....	985	.....
8	8-2½x4½	24.2	.....	Zenith	.....	.....	.....	.....	.....	.....	1,295	.....
DODGE												
.....	4-3½x4½	24.2	Eismn	Own	N E	Cone	3	110	32x3½	.....	785	.....

ABBREVIATIONS—"G & D" Gray & Davis, "Spidr" Spiltdorf, "A-Lite" Auto-Lite, "Walth" Westinghouse, "Shblr" Schebler, "Eismn" Elsmann, "Rafid" Rayfield, "A. Kent" Atwater Kent, "Emrsm" Emerson, "Sevan" Severson, "Undec" Undecided, "Brng" Berling, "Kngstn" Kingston, "Nain" National, "W.Lnd" Ward Leonard, "U.S.I." United States Lighting, "Conn" Connecticut, "Stwrt" Stewart, "Nwcmb" Newcomb, "N E" North East.

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
DORRIS												
...	6-4 x5	38.4	Walth	Stmbg	Walth	Disk	3	128	36x4½	....	....	2,475
DORT												
...	4-3 x4	14.4	Conn	.....	Apico	Cone	3	92	30x3	540	....	....
...	4-3½x5	16.9	Conn	.....	Apico	Cone	3	105	30x3½	....	650	....
EMPIRE												
...	4-3½x5	24	Conn	Shblr	.....	Cone	3	112	33x4	....	895	....
...	6-3 x5	21.6	Conn	Shblr	A-Lite	Cone	3	120	34x4	....	1,095	....
ENGEL												
12	12-2½x3½	33	A. Kent	.....	.....	.....	3	115	32x4	....	1,065	....
FIAT												
55	4-130x170	42.2	Bosch	Own	Walth	Disk	4	128	36x4½	4,650	4,650	4,650
6-50	6-110x150	44.0	Bosch	Own	Walth	Disk	4	135	37x5r	5,150	5,150	5,150
54	4-110x150	29.5	Bosch	Own	Walth	Disk	4	124	36x4½	4,150	4,150	4,150
FORD												
T	4-3½x4	22.5	Ford	Holley	.....	Disk	2	100	30x3	390	440	....
FRANKLIN												
6-30	6-3½x4	31.5	Eismn	Own	Dyneto	Disk	3	120	34x4½	1,950	1,950	....
F. R. P.												
45-B	4-4 3-5x6½	33.8	Bosch	Stwrt	Bosch	Cone	4	110	36x4	All bodies to order		
GLIDE												
6	6-3 x5	21.6	Walth	.....	Walth	Disk	3	119	34x4	....	1,095	....
GRANT												
TT	6-3 x4½	21.6	A. Kent	.....	A-C	Cone	3	112	32x3½	....	795	....
GREAT WESTERN												
1916	6-3 x5	21.6	Remy	.....	W. Land	Disk	3	...	33x4	....	1,185	....
H. A. L.												
H. A. L.	12-3 x4½	43.2	.....	.....	.....	Disk	3	130	34x4	1,750	1,750	....
HALLADAY												
6-40	6-	....	Walth	Stmbg	Walth	Disk	3	...	34x4	....	1,385	....
HARVARD												
4	4-2½x4½	12.1	Bosch	Carter	.....	Disk	3	100	28x3	....	750	....
HAYNES												
34	6-3½x5	29.4	Own	Rafid	L-N	Disk	3	121	34x4	*1,465	1,385	....
35	6-3½x5	29.4	Own	Rafid	L-N	Disk	3	127	35x4½	....	....	1,495
*Three-passenger												
HERFF-BROOKS												
4-35	4-4½x5	32.4	Spfld	Shblr	Apico	Cone	3	118	34x4	....	885	....
6-50	6-4 x4½	38.4	Spfld	Shblr	Apico	Cone	3	124	34x4	....	1,065	....
HOLLIER												
..	8-3 x4½	28.8	A. Kent	Stmbg	Apple	Cone	3	112	33x3½	....	985	....
HUDDSON												
6-40	6-3½x5	29.4	Delco	Zenith	Delco	Disk	3	123½	34x4	1,550	....	1,550
6-54	6-4½x5½	40.8	Delco	Zenith	Delco	Disk	4	135	36x4½	....	....	2,350
HUPMOBILE												
...	4-3½x5½	22.5	.....	Zenith	BiJur	Disk	3	119 134	34x4	1,085	1,085	1,225
IMPERIAL												
...	4-3½x5	22.5	Walth	Stmbg	Walth	Disk	3	115	33x4	....	995	....
56	6-3½x5½	33.7	Spfld	Stmbg	N E	Disk	3	130	36x4½	....	....	2,200
66	6-3 x5	21.6	.....	.....	.....	Disk	3	...	33x4	....	1,285	....
INTER-STATE												
T	4-3½x5	19.6	Remy	Shblr	Remy	Cone	3	110	33x4	....	1,000	....
JACKSON												
...	4-3½x5	19.6	.....	.....	A-Lite	Cone	3	112	32x4	....	985	....
...	8-2½x4½	26.4	.....	.....	A-Lite	Cone	3	112	32x4	....	1,195	....
...	8-3½x4½	39.2	.....	.....	A-Lite	Cone	3	124	34x4½	....	....	1,685
JEFFERY												
Four	4-3½x5½	22.5	Bosch	Stmbg	BiJur	Plate	3	116	34x4	....	1,000	1,03½
Six	4-4½x5½	33.7	Bosch	Rafid	U S L	Disk	4	133½	34x4½	....	1,270	2,400
Chfd	6-3 x5	21.6	Bosch	Stmbg	BiJur	Disk	4	122	34x4	1,350	1,350	....
KING												
...	4-3 15-16x5	24.7	A. Kent	Stmbg	W. Land	Disk	3	113	33x4	1,075	1,075	....
...	8-2½x5	24.1	A. Kent	Zenith	W. Land	Disk	3	113	33x4	....	1,350	....
KISSEL												
4-32	4-3½x5½	24	Walth	Stmbg	Own	Cone	3	115	32x4	....	1,050	....
4-36	4-4½x5½	29.0	Walth	Stmbg	Own	Cone	3	121	34x4	....	1,270	....
6-42	6-3½x5½	31.5	Walth	Stmbg	Kissel	Cone	3	126	34x4	1,485	1,485	1,485

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
KLINE												
6-42	6-3½x5½	29.4	Wths	Rafid	Wths	Dis	3	123	34x4	1,750	1,750	....
6-42-A	6-3½x5½	29.4	Wths	Rafid	Wths	Dis	3	127	35x4½	....	....	1,850
LAMBERT												
48-C	4-3½x4	22.5	Briggs	Shblr	Briggs	Fm Trs	112	32x3½	....	1,200	....	....
68-C	4-4½x5½	27.2	Briggs	Shblr	Briggs	Fm Trs	117	34x3½	....	1,565	1,565	....
LEWIS												
VI	6-3½x6	25.4	Remy	Stmbg	Remy	Dis	3	135	34x4	1,390	....	1,390
LEXINGTON												
Four	4-3½x5½	24.2	Wths	Shblr	Wths	Dis	3	115	34x4	1,375	1,375	....
6-L	6-3½x5	29.4	Wths	Shblr	Wths	Dis	3	128	34x4	1,875	1,875	....
6-M	6-4½x5	40.8	A. Kent	Stmbg	Jesco	Cone	3	130	36x4½	2,575	2,575	2,675
LOCOMOBILE												
M-5	6-4½x5½	48.8	Bosch	Own	Wths	Dis	4	140	37x5	5,100	....	5,100
B-5	6-4½x5	43.5	Bosch	Own	Wths	Dis	4	132	37x5r	4,400	4,400	....
MADISON												
...	6-3 x5	21.6	Remy	.....	Remy	Dis	3	120	34x4	985	985	1,085
MARION												
...	8-3½x4½	31.2	Bosch	.....	G & D	Dis	3	115	34x4	1,500	1,500	....
...	6-3 x5	21.6	Wths	Stmbg	Wths	Dis	3	120	33x4	....	1,230	....
...	4-3½x5	22.5	Bosch	Rafid	G & D	Dis	3	115	34x4	....	1,250	....
MARMON												
41	6-4½x5½	43.5	Bosch	Stmbg	Bosch	Cone	3	132½	36x4½	3,250	3,250	3,350
MAXWELL												
25	4-3½x4½	21.0	Simms	Kingstn	Simms	Cone	3	103	30x3½	655	655	....
McFARLAN												
T	6-4 x6	38.4	Wths	Stmbg	Wths	Cone	3	132	36x4½	2,680	2,680	2,680
X	6-4½x6	48.6	Wths	Stmbg	Wths	Cone	3	132	36x4½	2,990	2,990	2,990
McINTYRE												
25	4-3½x5½	19.6	Bosch	Stmbg	G & D	Cone	3	106	32x3½	....	850	....
6-40	6-3½x4½	29.4	Briggs	Stmbg	Briggs	Dis	3	120	35x4	....	1,275	....
MECCA												
4	4-3½x4½	22.5	Spldf	Shblr	Disco	Plate	3	104	30x3½	....	695	....
MERCER												
Spdstr	4-3½x6½	22.5	Bosch	Zenith	U S L	Dis	4	115	34x4½	2,750	....	....
T-Car	4-3½x6½	22.5	Bosch	Zenith	U S L	Dis	4	130	34x4½	....	3,000	....
METEOR												
42	4-4 x5	25.6	A. Kent	Stmbg	Spldf	Dis	3	114	34x4	....	1,075	....
45	6-3½x5	33.7	A. Kent	Spldf	Dis	3	128	35x4	....	1,395	....	....
METZ												
22	4-3½x4	22.5	Bosch	Own	.....	Fm Trs	96	30x3	495	....	....	....
25	4-3½x4	24.2	Bosch	A W T	G & D	Fm Trs	105	32x3½	....	600	....	....
MITCHELL												
8	8-3 x5½	28.8	.....	Rafid	Wths	Cone	3	116	34x4	1,450	1,450	....
6 of 16	6-3½x5	29.4	.....	Rafid	.....	Cone	3	125	34x4	....	1,250	....
MOLINE-KNIGHT												
...	4-4 x6	25.6	Bosch	Shblr	Wagner	Cone	4	128	36x4½	2,500	2,500	2,500
40	4-3½x5	22.5	Conn	.....	.....	Cone	3	118	34x4	....	1,375	....
MONARCH												
Six	6-3½x5	29.4	A. Kent	Zenith	W. Lndr	Cone	3	125	33x4	....	1,260	1,275
...	8-3 x5	28.8	.....	.....	W. Lndr	Cone	3	125	33x4	1,500	....	....
MONROE												
M-2	4-3 x3½	14.4	Conn	Zenith	A-Lite	Cone	3	96	30x3	400	....	....
MOON												
6-40	6-3½x5	29.4	Delco	Rafid	Delco	Dis	3	125	34x4	....	1,475	....
6-30	6-3½x4½	25.4	Delco	Rafid	Delco	Dis	3	118	34x4	....	1,195	....
MORSE												
D	4-4½x5	34.2	Elsmn	Stmbg	G & D	Dis	4	127	36x4½	3,600	3,600	3,600
NATIONAL												
...	6-3½x5½	29.4	Mgnto	.....	Wths	.....	2	128	34x4½	....	1,690	....
...	12-2½x4½	36.2	Dixie	.....	Wths	Cone	3	128	36x4½	....	1,990	....
AB	6-3½x5½	33.7	Elsmn	Rafid	Wths	Cone	3	134	36x4½	2,375	2,375	....
*Six-passenger												
NORWALK												
F	6-3½x5½	29.4	A. Kent	Rafid	G & D	Dis	4	131	37x4	1,875	....	....
OAKLAND												
37	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3	112	33x4	1,150	1,050	....
49	6-3½x5	29.4	Delco	Johnson	Delco	Cone	3	123½	35x4½	....	1,685	....
Spdstr	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3	112	33x4	1,050	....	....
OLDSMOBILE												
43	4-3½x5	19.6	Delco	Marvel	Delco	Cone	3	120	33x4	....	1,085	....
...	8-2½x4½	26.4	Delco	.....	Delco	Cone	3	120	33x4	....	1,295	....
OVERLAND												
83	4-4½x4½	27.2	Mgnto	.....	A-Lite	Cone	3	106	33x4	725	750	....
...	6-3½x5½	29.4	Spldf	.....	A-Lite	Cone	3	120	35x4½	....	1,145	....
OWEN												
...	6-3½x5½	33.7	Owen	Master	O M	O M	136	35x5	3,750	....	3,750	....
PACKARD												
1-25	12-3 x5	43.2	Delco	Own	Bljur	Plate	3	125	36x4½	....	2,750	....
1-35	12-3 x5	43.2	Delco	Own	Bljur	Plate	3	135	36x4½	....	3,150	....
PAIGE												
6-46	6-3½x5½	29.4	Bosch	Rafid	G & D	Dis	3	124	34x4	1,295	....	1,295
6-36	6-3 x5	21.6	Remy	Rafid	G & D	Dis	3	112	34x4	....	1,095	....
PARTIN-PALMER												
20	4-3½x4	15.6	A. Kent	Mulr	G & D	Dis	3	96	28x3	495	....	....
38	4-3½x5½	22.5	A. Kent	Stmbg	G & D	Done	3	115	33x4	1,075	....	....
PATERSON												
4-32	4-3½x5	19.6	Delco	Stmbg	Delco	Cone	3	112	33x4	....	1,095	....
6	6-3½x4½	25.4	.....	Stmbg	.....	Cone	3	117	32x4	....	985	....

Model	Motor	S. A. E. Rating	Ignition	Carburetor	Starter	Clutch	Gearset	Wheelbase	Tires	2-Passenger	5-Passenger	7-Passenger
PATHFINDER												
...	6-3½x5	29.4	Wths	Shblr	Wths	Dis	3	122	35x4½	1,695	1,695	....
...	12-3 x4	43.2	Wths	Shblr	Wths	Dis	3	122	35x4½	1,975	1,975	1,975
PEERLESS												
54	4-3½x5	22.5	A. Kent	Stmbg	G & D	Dis	3	113	34x4	2,000	2,000	....
55	6-3½x5	29.4	A. Kent	Stmbg	G & D	Dis	3	121	34x4	2,250	2,250	....
48-6	6-4½x6	48.6	Bosch	Own	G & D	Band	4	137	37x5	4,900	....	5,000
PIERCE-ARROW												
C-3	6-4 x5½	38.4	Bosch	Own	Wths	Cone	4	134	36x4½	4,300	4,300	....
B-3	6-4½x5½	48.6	Bosch	Own	Wths	Cone	4	142	37x5	4,900	4,900	5,000
A-3	6-5 x7	60.0	Bosch	Own	Wths	Cone	4	147½	38x5½r	5,900	5,900	6,000
PILOT												
55	6-3½x5½	29.4	Wths	Shblr	Wths	Cone	3	126	34x4	1,685	1,685	....
75	6-4½x6	48.6	Wths	Carter	Wths	Cone	3	132	37x4½	2,400	....	2,485
PREMIER												
6-50	6-4 x5½	38.4	Remy	Rafid	Remy	Dis	3	132	36x4½	1,985	1,985	1,985
PRATT												
6-50	6-3½x5½	33.7	A. Kent	Rafid	G & D	Dis	4	132	37x4½	2,150	2,150	2,250
PULLMAN												
Jr	4-3½x4½	22.5	Spldf	Stmbg	Spldf	Dis	3	110	30x3½	740	740	....
6-48	6-3½x5½	33.7	Simms	Stmbg	Wthr	Dis	4	134	36x4½	2,500	2,500	2,550
R-C-H												
K	4-3½x5	16.9	Bosch	B-D	W. Lndr	Cone	3	110	32x3½	....	775	....
REGAL												
L-4	4-3½x5	22.5	A. Kent	Stwrt	Dyneto	Cone	3	112	33x4	985	985	....
Eight	8-3 x4½	28	A. Kent	Stwrt	Dyneto	....	112	33x4	1,200	1,200	....	....
S-4	4-3½x4½	18.2	A. Kent	Stwrt	Dyneto	....	3	106	30x3½	650	650	....
REMINGTON												
...	4-3½x4	15.6	A. Kent	.....	W. Lndr	Cone	3	106	30x3½	695	695	....
Ghnd	8-3½x4½	31.2	A. Kent	Zenith	G & D	Dis	3	119	35x4½	1,495	....	....
REPUBLIC												
E	6-4½x5	43.5	Delco	Rafid	Delco	Cone	4	133	36x4½	....	2,950	3,000
REO												
M	6-3 9-16x5½	30.4	Remy	Johnan	Remy	Dis	3	126	34x4½	....	1,250	....
R	4-4½x4½	27.2	Remy	Johnan	Remy	Dis	3	115	34x4	....	875	....
ROSS												
A	6-3 x4½	28.8	.....	.....	Own	Dis	3	115	34x4	....	1,350	....
SAXON												
A	4-2½x4	12.08	A. Kent	Mayer	.....	Dis	3	96	28x3	395	....	....
B2	6-2½x4½	20.0	A. Kent	Rafid	Detroit	Dis	3	112	32x3½	785	785	....
SCRIPPS-BOOTH												
C	4-2½x4	13.3	A. Kent	Zenith	Bljur	Dis	3	110	30x3½	775	....	....
SPAULDING												
H	4-4½x5½	29.0	Simms	Rafid	Entz	Cone	3	120	36x4	....	1,680	....
SIMPLEX												
38	4-4½x6½	38.2	Bosch	Nwemb	Rshmr	Dis	4	137	37x5r	All bodies to order		
50	4-6½x6½	46.2	Bosch	Nwemb	Rshmr	Dis	4	137	37x5r	All bodies to order		
Crane	6-4½x5½	45.9	Ag. Co	Nwemb	Rshmr	Dis	4	143½	37x5r	Chassis \$5,000		
SINGER												
Six	6-4 x5½	38.4	Elamn	C. B. G	Wstrn	Dis	4	135	36x4½	2,350	2,350	....
STANDARD												
8	6-3 x5	29.8	Wths	.....	Wths	Dis	3	121	35x4½	....	....	1,735
6	6-4 x5½	38.4	Wths	Zenith	Wths	Dis	3	128	36x4½	....	....	2,100
STANLEY												
...	Steam	....	.....	.....	.....	.....	130	34x4½	....	1,975	....	....
STEARNS												
L-4	4-3½x5½	22.5	Wths	Shblr	Wths	Cone	3	119	34x4	1,385	1,385	....
S-K-6	6-4½x5½	43.5	Bosch	Stmbg	Wths	Dis	4	134	37x5	4,850	4,850	5,000
STUDEBAKER												
4	4-3½x5	24.0	Remy	Shblr	Wagner	Cone	3	112	33x4	850	....	885
6	6-3½x5	38.2	Remy	Shblr	Wagner	Cone	3	122	34x4	1,000	....	1,050
STUTZ												
H.C.S	4-3½x5	23.5	Remy	Stmbg	Remy	Cone	3	108	32x4	1,475	....	....
Br. Cat	4-4½x5½	36.1	Bosch	Stmbg	Remy	Cone	3	120	34x4½	2,000	....	....
Bulldog	4-4½x5½	36.1	Bosch	Stmbg	Remy	Cone	3	120	34x4½	....	2,250	....
Blgd Sp	4-4½x5½	36.1	Bosch	Stmbg	Remy	Cone	3	130	33x5	....	2,250	....
6-Pass	4-4½x5½	36.1	Bosch	Stmbg	Remy	Cone	3	130	34x4½	....	2,300	....
*Six-passenger												
TOURNAINE												
12	6-4 x5½	38.4	Simms	Zenith	Wths	Dis	4	124	34x4½	3,150	3,150	3,200
VELIE												
22-40	6-3½x4½	25.4	A. Kent	Stmbg	Remy	Dis	3	115	32x4	1,045	1,045	....
15-45	6-3½x5	29.6	A. Kent	Stmbg	G & D	Dis	4	124	34x4	1,400	1,400	1,500
VIXEN												
S.B	4-2½x4	12.0	A. Kent	Zephyr	.....	.....	106	28x3	395	....	....	....
VULCAN												
...	4-3½x5½	19.6	Wths	Stmbg	Wths	Dis	3	120	32x3½	975	975	....
WESTCOTT												
51	6-3½x5½	29.4	Delco	Rafid	Delco	Dis	3	126	35x4½	....	....	1,595
...	6-3½x4½	25.3	Delco	Rafid	Delco	Dis	3	120	34x4	....	1,295	....
WHITE												
30	4-3½x5½	22.5	Bosch	Own	Own	Plate	4	115	32x4	2,650	2,700	....
45	4-4½x6½	29.0	Bosch	Own	Own	Plate	4	132½	36x4½	....	....	2,800
WILLYS-KNIGHT												
84	4-4½x4½	27.25	Dixie	Titan	A-Lite	Cone	4	114	34x4	1,065	1,065	....
WINTON												
21	6-4½x5½	48.6	Bosch	Rafid	Alr or Elec	Dis	4	136	37x5	3,250	3,250	3,500
31A	6-3½x5½	31.5	Bosch	Rafid	Bljur	Dis	4	128	36x4½	2,285	2,285	....

Motor Car Dealers Recently Established

PLEASURE CARS		
Place	Car	Dealer
ALABAMA		
Birmingham	Paige	Paige Sales Co.
ARIZONA		
Douglas	Maxwell	W. E. Tester
Globe	Maxwell	C. B. Brown
Kingman	Maxwell	M. G. Wafner
Tucson	Maxwell	J. H. Hankins
Willcox	Maxwell	S. N. Holman
Winslow	Maxwell	Old Trails Garage
ARKANSAS		
Fort Smith	Paige	Gardner Auto Co.
CALIFORNIA		
Anahelm	Packard	Rockwell & Sidman
Alhambra	Maxwell	J. D. Meyer
Blahop	Maxwell	W. F. Muffman
Bakersfield	Packard	W. F. Gouty
El Centro	Maxwell	A. L. Luce
Del Mar	Case	George Dawson
Gardena	Maxwell	C. R. Young
Glendale	Maxwell	J. A. Purdie
Hollywood	Maxwell	C. F. Little
Inglewood	Maxwell	W. S. Magee
Lompoc	Maxwell	Collis & Nicolis
Long Beach	Maxwell	Lawler & Begg
Long Beach	Packard	A. E. Evans
Los Angeles	Marmon	Carlton, Faulkner & Bowles
Los Angeles	Saxon	Saxon Motor Sales Co.
Los Angeles	Chalmers	Greer-Robins Co.
Monrovia	Packard	A. T. Badillo
Palma	Maxwell	J. McCool
Pasa Robles	Maxwell	R. E. Dalrymple
Pasadena	Maxwell	Grace Motor Car Co.
Pasadena	Oakland	Kay & Burbank
Pomona	Maxwell	E. E. Booth
Redlands	Maxwell	L. B. Ayres
Riverside	Maxwell	Riverside Motor Car Co.
San Bernardino	Maxwell	Walter & Griemsmann
San Francisco	Cole	Hartmann Motor Sales Agency
San Luis Obispo	Packard	C. H. Kamm
Santa Ana	Packard	O. Fitch
Santa Barbara	Maxwell	C. B. Perry
Santa Monica	Maxwell	G. C. Boehme
Santa Paula	Maxwell	I. B. Martin
Taft	Maxwell	Lierly & Son
Ventura	Packard	R. M. Sealey
CANADA		
Calgary, Alta.	Hupmobile	H. H. Kerr & Co.
COLORADO		
Blanca	Buick	Terrill & Weaver
Colorado Springs	Case	Huffman & Gilbert
Crested Butte	Buick	L. G. Espey
Denver	Case	W. F. Blaine
Denver	Dort	J. S. Morrison Auto Co.
Denver	Empire	Wilson Auto Co.
Denver	Lewis	J. M. Patrick
Denver	National	Wilson Auto Co.
Denver	Scripps-Booth	J. A. Nisbet
Denver	Velle	Helser Bros.
Dolores	Buick	Dolores Motor Co.
Durango	Buick	William Phelan
Greeley	Chandler	Foster Bros.
Greeley	Chevrolet	Ledgerwood Bros.
Greeley	Monroe	Ledgerwood Bros.
Greeley	Oldsmobile	Straight & Son
Hartum	Buick	Lindbloom Motor Co.
Hugo	Buick	Ed. Cobb
La Junta	Buick	La Junta Auto & Mach. Co.
Loveland	Buick	Bonney Motor Co.
Meeker	Buick	White River Co.
Pagosa Spring	Buick	P. Catchpole
Rocky Ford	Buick	G. J. Lackey
Walsenburg	Buick	Walsenburg Novelty Works
CONNECTICUT		
Bantam	Hudson	Flynn & Doyle
New Haven	Stearns-Knight	N. B. Whitefield
South Manchester	Dodge	W. E. Luettgens
ILLINOIS		
Chicago	Dort	McDuffee Auto Co.
Bloomington	Hupmobile	F. G. Iseninger
Chadwick	King	George Entyre
Rapatee	Case	Wood Bros.
Sheldon	King	W. L. McCloud
IDAHO		
Kellogg	Paige	A. P. Hutton
Troy	Paige	C. A. Johnson
INDIANA		
Fort Wayne	Dort	Fuhrman Auto Co.
Indianapolis	Dort	Whitaker-Keeley Sales Co.
IOWA		
Des Moines	Dort	Holman-Stevens Motor Car Co.
Des Moines	Moline-Knight	Stewart & Schooler
KANSAS		
Colby	Case	E. A. Volson
Jetmore	Case	G. J. Hoff
KENTUCKY		
Bagdad	Hupmobile	H. L. Harrison & Son
Auburn	Maxwell	J. D. Spears
Bowling Green	Maxwell	McElroy Page
Ceneyville	Maxwell	Guy Willis
Canmer	Hupmobile	Charles Bale
Cave City	Saxon	Duke & Ferris Co.
Clay	Hupmobile	Clay Motor Car Repair Co.
Danville	Maxwell	D. H. Prewitt

Place	Car	Dealer
MASSACHUSETTS		
Elizabethtown	Saxon	Jenkins Essex Co.
Elizabethtown	Hupmobile	J. H. Igleheart
Eminence	Saxon	Drance C. Bohannon
Williamaburg	Overland	H. B. Mahan
MICHIGAN		
Worcester	Dodge	Henshaw Motor Car Co.
MINNESOTA		
Escanaba	Dodge	J. E. Jackson
Grand Rapids	Cole	Oswald Motor Car & Supply Co.
Ironia	Dodge	Miller & Ashe
McBain	Ford	E. D. McDonald
Marquette	Packard	Cloverland Auto Co.
Orion	Ford	C. M. Howarth
Saginaw	Empire	W. F. Homing
Saginaw	Oldsmobile	Saginaw Cadillac Co.
MISSISSIPPI		
Austin	King	Loeb Bros.
St. Cloud	King	M. Bisenius
South Haven	Overland	South Haven Auto Co.
Wasaca	King	A. Guyer
MISSOURI		
Hannibal	Overland	L. G. Wilhelm
Leeton	Case	L. B. Epperson
St. Louis	Partin-Palmer	Auto Exchange
Sedalia	Case	A. M. Hampton
MONTANA		
Great Falls	Moline-Knight	A. P. Heaney
NEW HAMPSHIRE		
Manchester	Packard	Packard M. Car Co. of Boston
NORTH DAKOTA		
Lisbon	King	Lisbon Auto Co.
Oakes	Buick	John Gronbeck
OHIO		
Cleveland	Halladay	Stark Auto Co.
Columbus	Madison	Campbell-Fisher Sales Co.
Coshocton	Buick	J. W. Johnson
Mansfield	Metz	H. T. Manner
Portsmouth	Case	J. D. Bridges
OKLAHOMA		
Tulsa	Case	Jordon & Bowen

Motor Car Securities Quotations

No quotations for the corresponding date in 1914 are available because of the closing of the Stock Exchange due to the foreign war situation.

	Sept. 28, 1915	Sept. 28, 1915
	Mid	Asked
Ajax-Grieb Rubber Co., com.	300	110
Ajax-Grieb Rubber Co., pfd.	101	110
Aluminum Castings, pfd.	102	110
Chalmers Motor Co., com.	118	130
Chalmers Motor Co., pfd.	96	101
Firestone Tire & Rubber Co., com.	540	540
Firestone Tire & Rubber Co., pfd.	111	111
General Motors Co., com.	344	345 1/2
General Motors Co., pfd.	113	115
B. F. Goodrich Co., com.	69	71
B. F. Goodrich Co., pfd.	108	109
Goodyear Tire & Rubber Co., com.	310	310
Goodyear Tire & Rubber Co., pfd.	109	109
International Motor Co., com.	29	31
International Motor Co., pfd.	58	63
Kelly-Springfield Tire Co., com.	230	235
Kelly-Springfield Tire Co., 1st pfd.	90	92
Kelly-Springfield Tire Co., 2nd pfd.	235	240
Maxwell Motor Co., com.	52	53 1/2
Maxwell Motor Co., 1st pfd.	92	94
Maxwell Motor Co., 2nd pfd.	44	46
Miller Rubber Co., com.	190	195
Miller Rubber Co., pfd.	107	109
Peerless Motor Car Co., com.	130	130
Peerless Motor Car Co., pfd.	92	94
Fortage Rubber Co., com.	55	55 1/2
Fortage Rubber Co., pfd.	83	84
*Reo Motor Truck Co.	18 1/2	17 1/2
*Reo Motor Car Co.	32 1/2	32 1/2
Stewart-Warner Speed. Corp., com.	74	76
Stewart-Warner Speed. Corp., pfd.	106	106
Studebaker Corp., com.	139	140
Studebaker Corp., pfd.	107	108 1/2
Swinehart Tire & Rubber Co.	86	86
U. S. Rubber Co., com.	52	53 1/2
U. S. Rubber Co., 1st pfd.	106	107 1/2
White Co., pfd.	110	110
Willis-Overland Co., com.	213	214 1/2
Willis-Overland Co., pfd.	707	709
Paige-Detroit Motor Car.	450	450
Regal Motor Co., pfd.	21	21

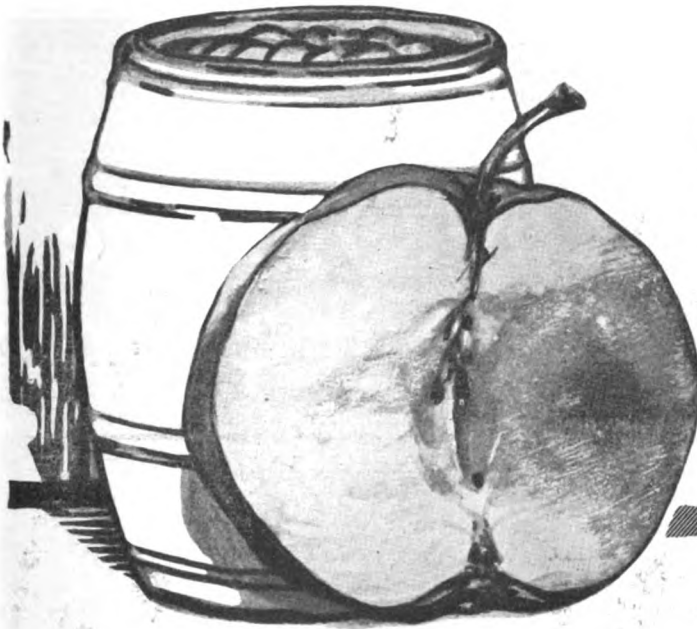
*Par value \$10; all others \$100 par value.

Place	Car	Dealer
SOUTH DAKOTA		
Clark	King	Harry Hurlbut
Volga	Case	Lee & Lee
Watertown	Moore 30	Marvin & Elitz
WEST VIRGINIA		
Charleston	King	Virginian Elec. & Mch. Wks.
WYOMING		
Lander	Buick	Barney Beard

Coming Events

*Indicates sanction by A. A. A.

Oct. 2.....	Fresno, Cal.—100-mile track race; Fresno Agricultural Association.	Oct. 4-14.....	Wichita, Kan., show, Wichita Auto Dealers' Assn.
Oct. 2.....	New York—Speedway race meet, Sheepshead Bay Speedway Corp.	Oct. 6-16.....	New York City; Ninth Annual Electrical Exposition and Motor Show at Grand Central Palace.
Oct. 4, 5 and 6..	Columbus, O.—State convention; Columbus Garage Owners' Association.	Oct. 16-23.....	Pittsburgh, Pa., Eleventh annual show, Motor Square Garden, Automobile Dealers Assn. of Pittsburgh.
October 7.....	Grand Rapids, Mich. Convention of the Garage Owners' Association of Michigan.	Oct. 17-18.....	San Diego, Cal., Show at Exposition.
Oct. 8-9.....	Peoria, Ill., Convention of Garage Owners' Assn. of Ill.	Oct. 18-25.....	Troy, N. Y., show, Armory; Troy Automobile Dealers' Assn.
Oct. 9.....	Indianapolis, Ind.—100-mile Invitation Race, Motor Speedway.	Nov. 1-3.....	Pasadena, Cal.; show; Hotel Green. Walter Hempel.
Oct. 11.....	Kansas City, Mo., Annual Trade Tour Kansas City Motor Car Dealers Assn.	Nov. 12-20.....	Providence, R. I., Show, Automobile Dealers Assn.; State Armory.
Oct. 16.....	Chicago—Speedway race meet, Speedway Park Association.	Dec. 31-Jan. 8...	New York, N. Y., Sixteenth Annual National Automobile Show; National Automobile Chamber of Commerce; Grand Central Palace.
Oct. 18-19.....	Cleveland, O.; Hotel Statler; Sixth Annual Convention, Electric Vehicle Assn. of America.	Jan. 8-15.....	Philadelphia, Pa., show, Philadelphia Automobile Trade Assn.
Oct. 20-22.....	Excelsior Springs, Mo., quarterly meeting National Assn. of Automobile Accessory Jobbers.	January 22-29...	Chicago, Ill.—Show; National Automobile Chamber of Commerce; Coliseum and First Regiment Armory.
Nov. 20.....	Phoenix, Ariz., 150-mile track meet.	Jan. 29-Feb. 5....	Minneapolis Winter Show; Minneapolis Automobile Trade Assn., National Guard Armory.
THE SHOW CIRCUIT			
Oct. 2-9.....	Cincinnati, O.; Show, Music Hall; Automobile Dealers Association.	Feb. 7-12.....	Kansas City, Mo., Show, Kansas City Motor Dealers Assn., Convention Hall.
Oct. 3-9.....	Kalamazoo, Mich., Prosperity Week, Kalamazoo Auto Dealers Assn.	Feb. 15-20.....	Omaha, Neb., 10th annual show, Omaha Automobile Show Assn.
Oct. 4-9.....	St. Louis, Mo., ninth annual show, St. Louis Automobile Manufacturers' and Dealers' Assn.	March 4-11.....	Boston, Mass.—Fourteenth Annual Show, Boston Auto. Dealers Assn.; Boston Commercial Vehicle Assn.
		Sept. 21-24.....	Cleveland, O.—Convention, Carriage Builders National Assn.



**One Rotten
Apple Will
Spoil a Barrel
of Good Ones**

*And one weak dry-cell
will quickly ruin a
series of live ones*



Indestructible Monarch Storage Battery Tester for testing storage batteries. Unbreakable and absolutely accurate. Guaranteed. Specify whether for six or twelve volt battery when ordering.

Price, \$1.50

There is only one real way to tell good dry cells from bad and that is by means of a good ammeter. The only ammeter made that is absolutely dependable under all weather conditions and whose accuracy is never affected by hard service or abuse is the

**INDESTRUCTIBLE
MONARCH
AMMETER**

\$1.00

Every dry cell user should own a Monarch Ammeter. It saves its cost many times over in a season—a money saver as well as a big convenience. Eliminates guess work and helps locate trouble quickly.

Monarch Ammeters are guaranteed not only to be absolutely accurate and dependable but *unbreakable*.

Unlike all other ammeters the Indestructible Monarch is not injured by hard service—even abuse. You can safely carry it in a tool box, drop it on a stone floor, slam it around any old way—but you won't injure it or destroy its accuracy. Easy to read and handy to carry. Price \$1.00 at most dealers.

DEALERS: Write today for discounts and sales helps.



Hercules Instrument Company
Mount Vernon Dept. MW N. Y.



When writing advertisers please mention Motor World

You Will Waste No Time ... Reading This if You Operate ... a Repair Shop



It is impossible in a single ad to intelligently describe the Martell Aligning Reamer for scraping motor bearings, but here is the reamer, here is how a man actually uses it, and here is a letter from the head of the Packard Motor Car Co. which tells what he thinks of it.

We want to show you how it will ream four motors while you are hand scraping the bearings of one—how it secures precise alignment, perfect gear mesh, and accurate size of bearings.

Write for our free book "A Better Way to Scrape Motor Bearings," which describes the reamer and its operation.

Harding Manufacturing Co.
40 Court Street Boston, Mass.



IHD/CHP
4128

September 16, 1915.

Harding Manufacturing Co.,
Boston, Mass.

Gentlemen:

The continued success we have had in using the MARTELL ALIGNING REAMER FOR SCRAPING BEARINGS makes the writer wish to add a few words to his previous letter.

During our busy season it has always been necessary for us to employ from six to eight men on scraping bearings; using the Reamer, we are now doing more and better work, with one man and a helper, enabling us to use our best men on other work.

Using the utmost care on hand-scraping bearings, we have found that occasionally a bearing gets by that is not all it should be, thus requiring the taking down of the motor and putting in new bearings. Since we have had the Martell Reamer we have never had to renew a bearing. The difficulty of obtaining the proper mesh of the gears, which is so troublesome in hand-work, is entirely overcome by the use of the Reamer and the consequent accurate setting of the gears is producing for us uniformly quiet motors.

As compared with hand-scraping the Reamer has these very decided advantages:

- You can tell exactly what you are going to do before you do it;
- You can save the greater part of the time formerly employed in hand-scraping;
- The gears are correctly meshed and the bearings in perfect alignment;
- Longer-life bearings, due to a more perfect surface.

The only reason that would compel us to go back to the hand-scraping method would be the impossibility of obtaining your Reamer, even if we had to pay many more times the price asked for it.

Yours very truly,

PACKARD MOTOR CAR CO. OF BOSTON.

H. B. ...
Superintendent.



MARTELL ALIGNING REAMER

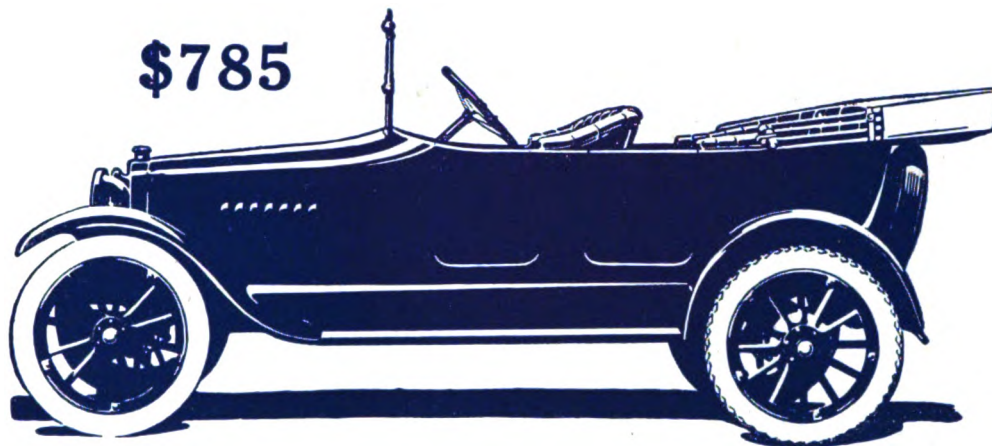


When writing advertisers please mention Motor World

New Series Saxon "Six"

A big touring car for five people

\$785



—distinctly a fine quality car

New Features

Two unit electric starting and lighting system—*new*.

Timken axles, Timken bearings throughout the chassis.

Silent helical bevel drive gears.

Roomier rear seat.

Battleship linoleum covered, aluminum bound running boards and floor boards.

Improved body finish.

Garnish strip around top of body.

—and 17 other improvements.

Every feature attests its record excellence. Every detail is typical of the class car. Twice its present price could not have purchased such a car but a short time past. You men who keep pace with advances in motor car building should see this new series Saxon "Six" at once. It will surprise you with its finished perfection.

New Standards Set by Saxon "Six"

First—*in lightness*. But it is not the lightness of lost strength. Skilful design and top grade materials alone account for this reduction in weight.

Then—*in power*. This Saxon high speed motor—on less gas—develops more power than far larger motors used to give. We doubt if any car of like price can measure power, speed, flexibility, acceleration, hill climbing, quietness, smoothness and coolness with the Saxon "Six."

Next—*in beauty*. Here again Saxon "Six" scores. Its beautiful yacht line body is the latest development of motor car fashion.

Next—*in size*. Saxon "Six" is a big car. The wheelbase is 112 inches. Five people find ample space to ride in comfort.

Next—*in economy*. In this respect Saxon "Six" truly triumphs. Fuel and tire cost it brings far below most standards. It will revise your ideas of operative cost.

Further Refinements That Mark Its Quality

Here are developments that mean much to you. Saxon "Six" has a two unit electric starting and lighting system—reliable, efficient, silent.

It has Timken axles, with full Timken bearings throughout the chassis. No car at any price has better axles.

It is driven with helical bevel gears. These eliminate all noise and friction. It has an improved body finish of lasting newness. It has linoleum covered running boards and floor boards. A garnish strip around the top of the body adds to its trim smartness.

We urge you to see the new series Saxon "Six" at \$785. We believe it to be the best car sold at anywhere near its price—and we think you'll agree. Write today for literature.

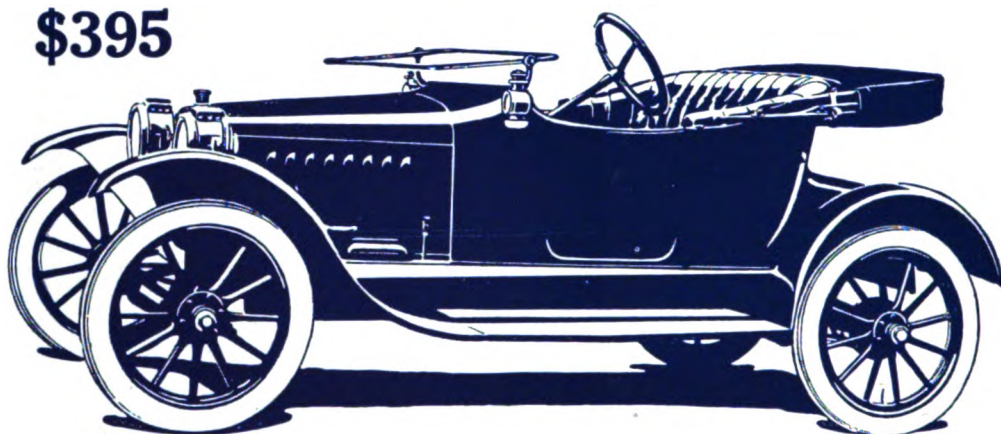


"Six" Touring Car	\$785
"Six" Roadster	785
"Six" Touring Car with detachable limousine top	935

Saxon Motor Company, Detroit

New Series Saxon Roadster

\$395



—today's choice among 2-passenger cars
New Features

Three speed transmission

Timken axles

New body—handsomer, roomier

Improved high speed motor

Signal lamps at side

Ventilating windshield

Adjustable pedals—

and 15 further refinements

To those Saxon Roadster attractions which earned its present prestige among 30,000 owners we now add over a score of further improvements. They mark the best practices in roadster construction. Judge the field of low-priced two-passenger cars by any gauge you like. In the end you'll agree that this new series Saxon Roadster stands out clearly—the pick of its class.

Feature Innovations You Now Find

Three-speed Transmission. This provides greater flexibility. Only the new series Saxon Roadster—among cars selling for less than \$400—has a three speed transmission.

Saxon high speed motor. This motor won widespread praise—when first brought out—for its power, smoothness, flexibility, ability to cool under all conditions and operative economy. It has been still further refined and developed.

Timken axles. No better can be bought. Ventilating Windshield, Signal Lamps at side. Adjustable Pedals—all equipment of unmistakable desirability.

A body of greater beauty. No one—we believe—will question the supremacy of the Saxon Roadster in the matter of handsome appearance. Its body is a perfect streamline. You are proud to own it—to be seen in it.

More room. Plenty of leg length. Spacious comfort for two large people when seated.



Most Economical Car to Own

And not only that but Saxon Roadster—all things considered—costs less to keep than a good horse and buggy. Against every sort of test—under hardest possible conditions—it has maintained an average operating cost of one-fourth cent per mile per passenger—30 miles to the gallon of gasoline—100 to 150 miles on a pint of oil—3500 to 5000 miles on a \$7.95 tire.

Women find it easy to drive the Saxon because of its simple operation—its lightness—and short turning radius. City salesmen find it a wonderfully convenient and economical method of transportation.

So ruggedly is it built—so reliable is the Saxon Roadster—that it will carry you comfortably, quietly and quickly anywhere larger cars will—even across the continent. Go see this new series Saxon Roadster at the nearest Saxon dealer's. Literature on request.

Standard Roadster	\$395
(Electric Starting and lighting, \$50)	
Delivery Car	395
Standard Roadster, detachable coupe top	455

Saxon Motor Company, Detroit

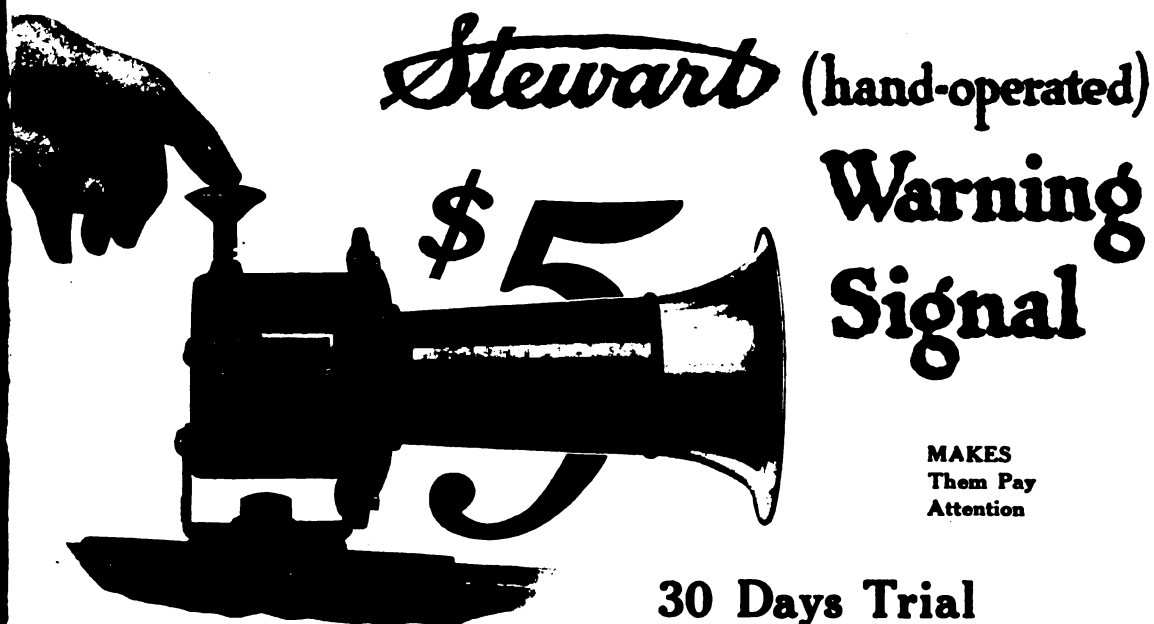
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Can You
**Name the Fastest
selling Accessory
on the Market —**

THERE never has been a warning signal on which Dealers made so much money or sold in such tremendous volume as the Stewart Hand-operated Warning Signal — \$5.

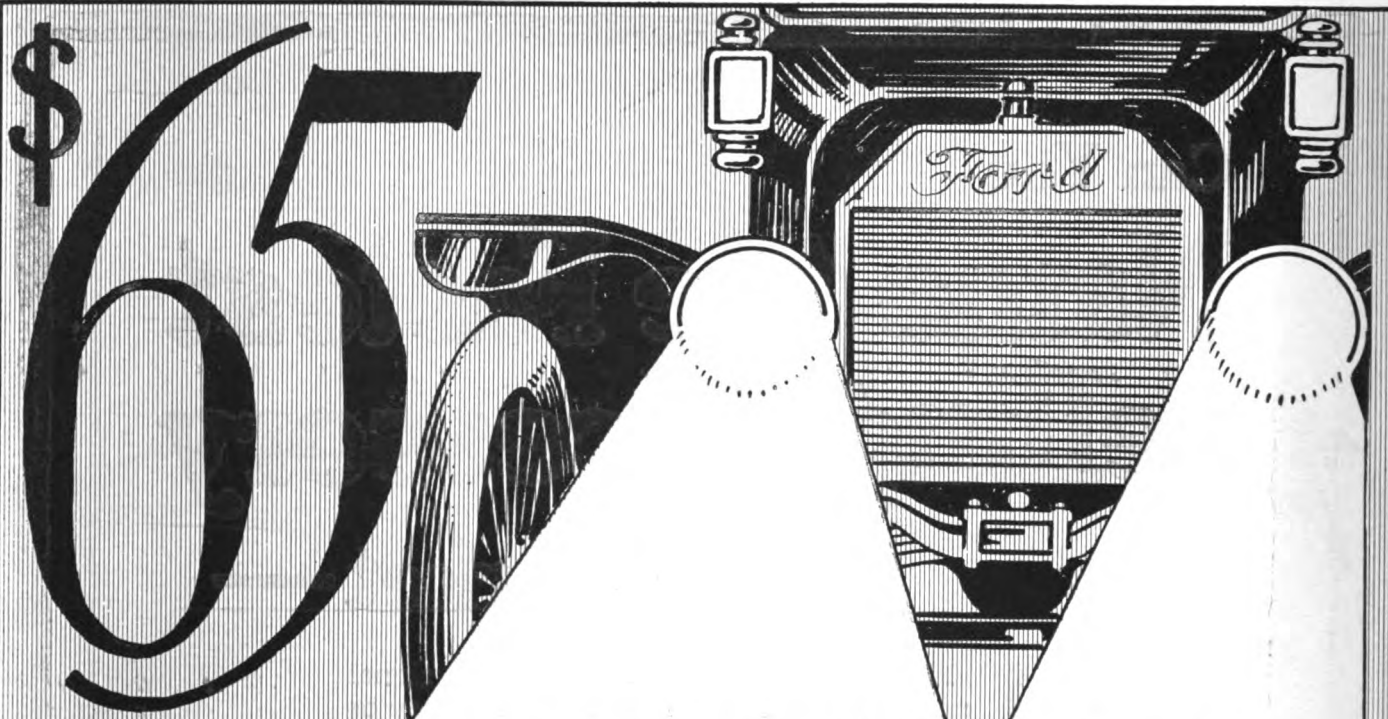
No warning signal ever attained such instant and universal popularity. It is the choice on all classes of cars.

The Stampede has doubled the sales month after month. Any dealer who has so far failed to cash in big on his share of this business can "catch up" by getting busy at once — NOW! This is the easiest selling Warning Signal ever made and the hardest to compete with.



**MAKES
Them Pay
Attention**

Stewart-Warner Speedometer Corporation, Chicago, U. S. A.



\$65

SPLITDORF-APELCO

ELECTRIC STARTING AND LIGHTING SYSTEM

FOR FORDS

Things to Remember About the Splitdorf-Apelco Single Unit System

- 1—As a motor, the SPLITDORF-APELCO SINGLE UNIT SYSTEM is powerful enough at economical current consumption to spin the engine at sufficiently high speed to insure prompt and unfailing starting.
- 2—Working as a generator, this system is capable of producing ample current output at low speeds to maintain a fully charged battery and provide for every current demand.
- 3—It has perfect current control at all speeds, eliminating the danger of an undercharged or an overcharged battery.
- 4—In line with the car on which it is designed to work, the SPLITDORF-APELCO SINGLE UNIT SYSTEM combines substantial construction with light weight—the lightest construction consistent with the work it has to do.
- 5—The installation of this system is extremely simple and once installed it gives the greatest accessibility and does not need to be removed for the ordinary repairs a Ford motor may require.
- 6—The SPLITDORF-APELCO System is developed, built and guaranteed by the largest exclusive manufacturers of automobile electrical devices in the world.

DEALERS' We have an attractive offering for the handling of **PROPOSITION**
SPLITDORF-APELCO outfits. Write for details.



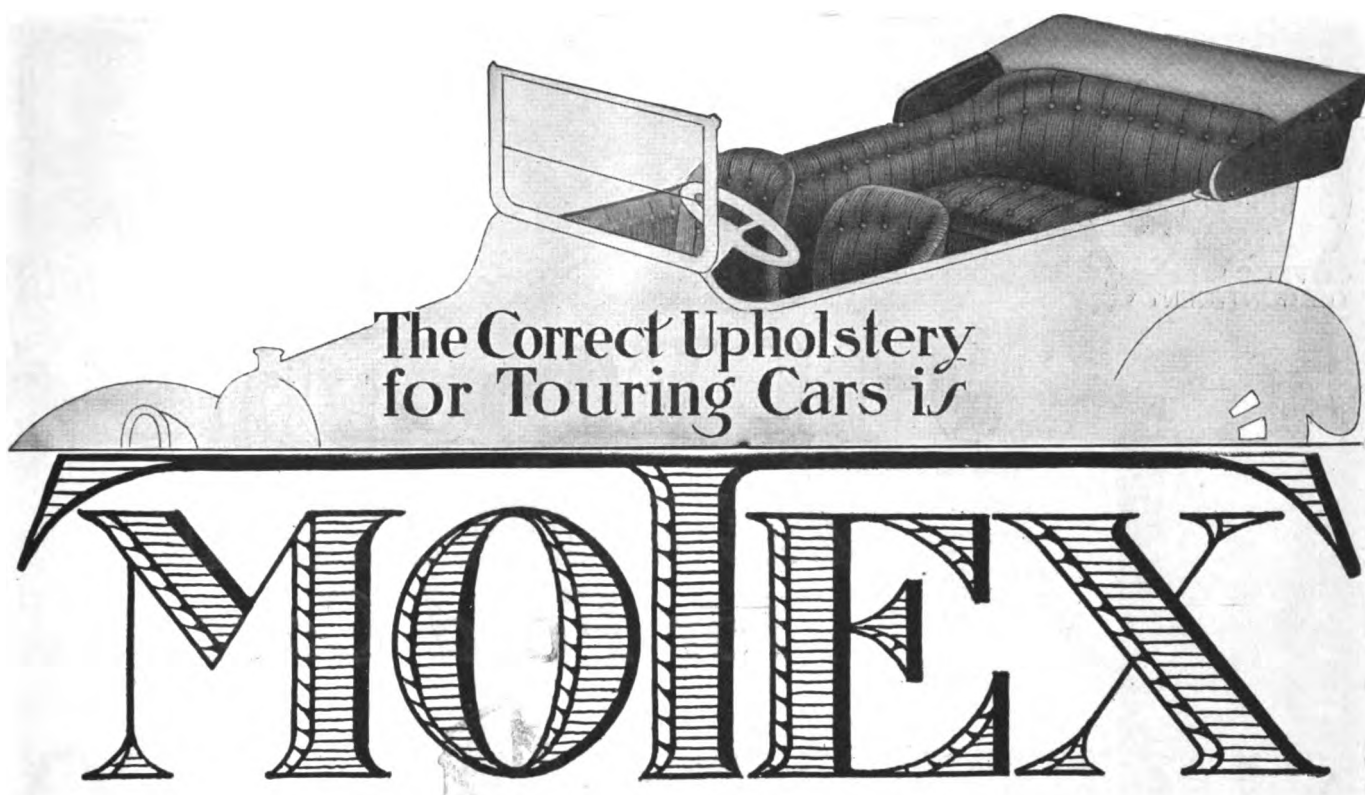
SPLITDORF ELECTRICAL COMPANY

ATLANTA.....10-12 E. Harris St.	DETROIT....972 Woodward Ave.	PITTSBURGH, 5941 Ellsworth Ave.
BOSTON.....1112 Boylston St.	KANSAS CITY..1827 Grand Ave.	PHILADELPHIA, 210-12 N. 13th St.
CHICAGO.....64-72 E. 14th St.	LOS ANGELES, 1215 S. Hope St.	SAN FRANCISCO, 1028 Geary St.
CINCINNATI.....811 Race St.	MINNEAPOLIS.....34 S. 8th St.	SEATTLE.....1628 Broadway
DALLAS.....402 S. Ervay St.	NEWARK.....290 Halsey St.	TORONTO.....469 Yonge St.
LONDON	PARIS	MILAN
	NEW YORK.....3-5-7 W. 61st St.	MELBOURNE

Factories: NEWARK, NEW JERSEY

(All SPLITDORF features are fully covered by patent or patents pending)

When writing advertisers please mention Motor World



THE correct upholstery for touring cars is "MOTEX," a woven textile designed and constructed to meet all the requirements and abuses of touring car and convertible body upholstery. "MOTEX" should not be confused with ordinary cloth upholstery, such as is used in limousines, electric cars or horse drawn vehicles.



We have prepared an instructive and interesting booklet describing in detail the features and advantages of "MOTEX" Upholstery for touring bodies. We will send you this booklet if you request it.

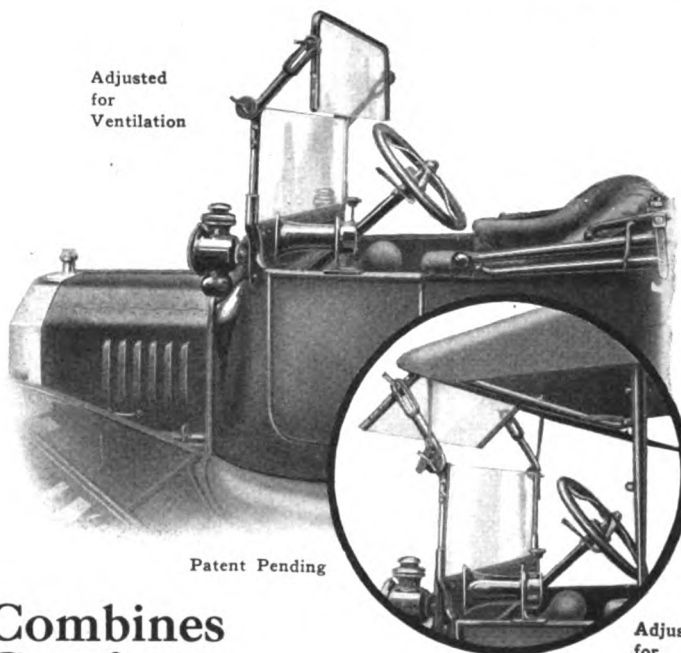
The
Laidlaw
Company Inc.
 New York City



One Firm—One Service—One Responsibility

J-M Windshield Attachment for Ford Cars

Adjusted for Ventilation



Patent Pending

Adjusted for Rain Vision

Combines Comfort and Safety

An entirely new and practical attachment that renders Ford Windshields—*ventilating—rain vision and clear view* at a cost so slight that every Ford owner will buy it on sight.

The attachment consists of a set of friction hinges which replace the present hinges, giving every advantage of the latest and most costly type of windshield.

Fits Fords of every year and model. • Readily attached. Upper half of shield adjustable to any angle desired.

Liberal discounts to trade. Write today.

\$3.
Complete



CARTER AUTOMATIC GRAVITY TANK



CARTER CARBURETOR



J-M AUTO CLOCKS

When writing advertisers please mention Motor World



back of every J-M Automobile Accessory

JOHNS-MANVILLE SHOCK ABSORBER

**Meets the Demand
for a Good Shock
Absorber at a
Moderate Price**

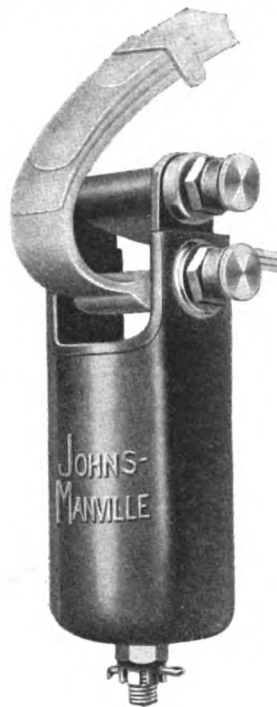
THOUSANDS of car owners testify to the smooth and comfortable riding made possible by this shock absorber.

It not only produces easier riding but reduces repair bills and increases the life of the car. Absorbs the severest jolts as readily as the most minute vibrations.

Employs a specially designed telescopic volute spring made of a superior quality vanadium steel. Fits any spring up to $2\frac{1}{4}$ inches wide. Easily and quickly attached by removing shackle bolts on rear springs.

Our dealer proposition means quick and easy profits. Write for it today.

\$15. Complete
Per Pair



H. W. JOHNS-MANVILLE CO.

Akron	Buffalo	Dayton	Houston	Milwaukee	Omaha	St. Louis	Syracuse
Albany	Chicago	Denver	Indianapolis	Minneapolis	Philadelphia	St. Paul	Toledo
Atlanta	Cincinnati	Detroit	Kansas City	Newark	Pittsburgh	Salt Lake City	Washington
Baltimore	Cleveland	Duluth	Los Angeles	New Orleans	Portland	San Francisco	Wilkes-Barre
Birmingham	Columbus	Galveston	Louisville	New York	Rochester	Seattle	Youngstown
Boston	Dallas	Houghton	Memphis				

THE CANADIAN H. W. JOHNS-MANVILLE CO., LIMITED, Toronto, Montreal, Winnipeg, Vancouver



What Tire Buyers Have Learned

Price Is a Mighty Argument When the Quality Is

Firestone

- and What It Means To Firestone Dealers

CAR-OWNERS now have a much larger and far more accurate knowledge of tire structure and real tire values than formerly.

This is one result of the Firestone's tire-section advertising. In Firestone advertisements for months, illustrations of cross sections of Firestone tires in full size have appeared, with the Firestone's Inbuilt Extras so indicated that even the casual observer could readily see them.

The value of this clear light on tires both to car owners and tire dealers is beyond estimate. It has led buyers to insist that everything shall be in a tire that ought to be there—that means Firestones.

They insist on extra plies of fabric—extra coating of rubber between fabric layers—the rubber cushion layer—extra tread built up in center—extra cohesive strength of beads. They demand tires vulcanized by the "two-cure" process. All these demands are met by the Firestone exclusively. The section shows them. The mileage proves them.

The Firestone dealer has an enviable advantage. Through study of the sections, tire buyers are selling Firestone tires to themselves. This explains why so many car-owners are turning to the tire that gives Most Miles per Dollar.

Firestone Tire & Rubber Co., Akron, Ohio—Branches and Dealers Everywhere
"America's Largest Exclusive Tire and Rim Makers"

Policy

Policy is the background of progress, the basis of commercial success. Scripps-Booth policy stands for continual advancement and betterment irrespective of price, and has nothing in common with the present frenzied cutting of motor car prices, which in the face of rising labor and material costs can mean but impoverishment of quality and impairment of value.

Scripps-Booth products will always be built up to a standard of highest quality and never down to a basis of price. Spectacular announcements of so-called new yearly models at greatly reduced prices have been used as an unnatural means to stimulate sales. That this results in an immediate and unwarranted depreciation in the market value of every owner's car at the time the new announcements are made is easily seen. Such cars become at once out of date.

Manufacturers of the most famous and successful cars owe their success to a better policy. The world-wide prestige of such concerns as the Rolls-Royce, the Isotta Fraschini, Renault, Mercedes, De Dion Bouton et cetera, rests on the continuous introduction of well-developed improvements; not on the sudden adoption of accumulated changes. Master products cannot be rushed up to date in a few weeks and made perfect by loud announcements. Such can only be maintained in their class by engineering skill and continual effort. This is the reason for maximum performance and highest resale value.

The Scripps-Booth Company believes that the policy which will best protect the interests of Scripps-Booth owners is the policy that will best maintain the reputation of Scripps-Booth cars. To such a policy will the Scripps-Booth Company strictly adhere. Its object is to produce the smartest looking and easiest riding roadster it is possible to build, which shall be efficient in construction and perfect in operation — a pride alike to those who buy the car and those who sell it.

We will take no part in the frenzied slashing of prices now in vogue, believing it unsound in principle and unfair in practice. We refuse to impair the quality for 1916; we strive conscientiously to improve it; we cannot, therefore, reduce the price.

Scripps-Booth prices always will be consistent with the standard of quality which this firm insists upon as its foundation of growth.



Scripps-Booth Co.
Detroit, Mich.



Tested in 1915
Used for 1916

Inevitably

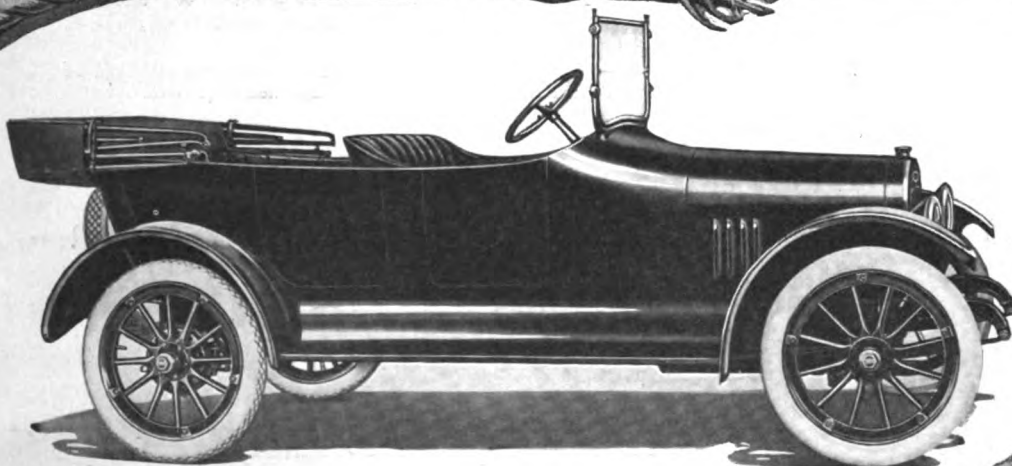
by the



1916 DORT CARS

Tie up to

GOULD Storage Batteries



Dort Agents are urged to write for our list of service stations.

Dealers in Automobile Accessories, Garage Owners and Electrical Dealers say our Agency Plan is just what they have been looking for. Write us.

Gould Storage Battery Co., Main Office, 30 East 42nd St., New York
Sales Offices at Chicago, Cleveland, Detroit, Philadelphia, Boston and San Francisco

When writing advertisers please mention Motor World



Proof!

THE SUPERIORITY OF NATIONAL "SPECIAL" RED TUBES IS NOT MERELY A MATTER OF ADVERTISING CLAIMS

IT CAN BE DEMONSTRATED!

IN a good tube toughness and *lasting* elasticity are vitally important. But to be elastic and full of life a tube must be made entirely of high-grade, pure rubber—reclaimed rubber and rubber substitute can be used to cheapen the price of a tube but it shortens its life materially. The illustrations at the top of the page illustrate graphically the truth of our claims.

We have told you over and over in our advertising that NATIONAL Tubes are made entirely of the finest rubber stock—Up-River Para.

Let us see what this means. In elasticity tests the rubber in ordinary stock National "Special" Tubes shows ability to be stretched to nine times its own length for 48 hours and then *return to its original shape*. On the same test the rubber in a tube made of ordinary, inferior stock will stretch to only about five times its length and will *not* return to its original size.

This superiority in stock to begin with is only one point in NATIONAL superiority. Add to this the careful laminated construction, the special vulcanizing process, the valve patch as an integral part of the tube, and our guarantee against leakage and deterioration for one year and the logical answer is

"BUY NATIONALS"

Dealers: Write for territorial proposition, terms, etc. We manufacture tires as well as tubes. Address Sales Manager.

National Rubber Company

Factory and Main Offices,
Pottstown Pa.

New York
J-M Shock Absorber Co.
250 West 54th Street

Philadelphia
J-M Shock Absorber Co.
210 South 17th Street

When writing advertisers please mention Motor World

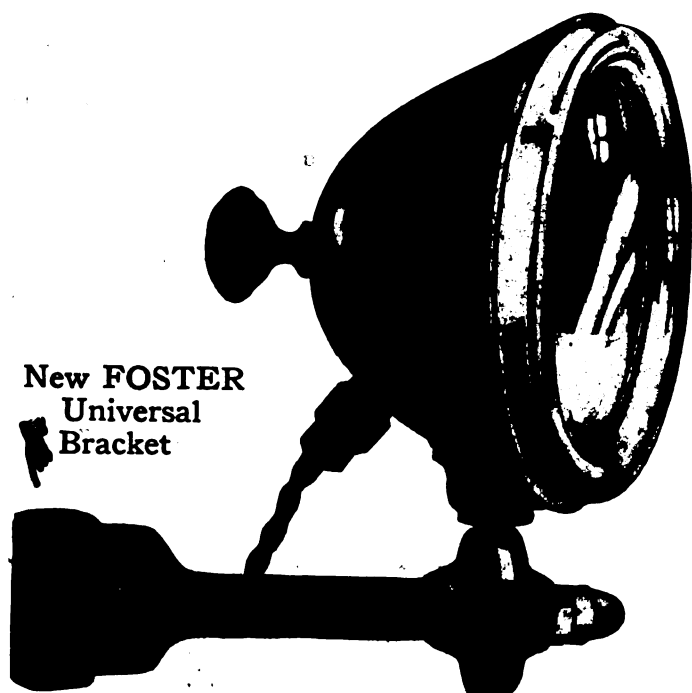
Size	Price	Size	Price
28x3	\$3.10	36x4	\$5.90
30x3	3.20	37x4	6.10
30x3½	4.10	34x4½	7.10
31x3½	4.25	35x4½	7.25
32x3½	4.40	36x4½	7.50
34x3½	4.70	37x4½	7.75
36x3½	5.00	35x5	8.50
31x4	5.20	36x5	8.70
32x4	5.30	37x5	9.00
33x4	5.50	39x5	9.50
34x4	5.65	37x5½	10.30
35x4	5.75	38x5½	10.50



NEW

\$7.50

MODEL



New FOSTER
Universal
Bracket

Note
Improved
FOSTER Universal
Swivel

**:: CAN BE ::
INSTANTLY
ATTACHED
TO ANY CAR**

HERE'S the new FOSTER Owl Light at the new price. Everybody's stampeding to it. We had 2,000 orders before the first light was made and are now working overtime to meet deliveries. Get in touch with us now, so that you may be sure of getting immediate attention. Don't delay!

The next six months will see more FOSTER Owls sold than all other searchlights combined. Get your share of the big business our advertising in every prominent motor car paper is creating.



Profits are good. Everybody uses their car the year around nowadays. This light will sell big this fall and winter. There are a thousand uses to which the FOSTER Owl can be put.

At \$7.50, this new light with improved FOSTER Universal Swivel and new Universal Bracket, which permits the light to be attached to the windshield of any car, is sure to be the biggest selling accessory of the year.

By means of a specially designed silver reflector the new FOSTER Owl Light throws as powerful and far-reaching a light as much larger lamps. The FOSTER Nitrogen Tungsten bulb with which this light is equipped is 50% more powerful than ordinary bulbs, uses less current and is more durable.

Operates from storage battery or dry cells. Attaches to windshield of any car. In ordering, state make and model of car and battery voltage. Demand the genuine FOSTER Owl Light. Accept no substitutes.

Price, \$7.50, complete with bracket, 3-ft. cord, two sockets, ready to put right on. Handsomely finished in black with nickel trimmings.

Write for free catalogue of complete line of accessories. Good discounts.

C. H. FOSTER

Manufacturer and Distributor
of Motor Car Accessories

2303 Michigan Boulevard, Chicago, Ill.

A large, detailed illustration of an eagle, shown from the chest up, facing left. Its wings are slightly spread, and its talons are visible at the bottom. The eagle is perched on a dark, textured surface.

**Made In
U·S·A
and
Made Good**

The Stutz logo features the word "STUTZ" in a bold, serif font. Above the letters are two stylized wings, each with a series of curved lines representing feathers, extending outwards from the top of the letters.

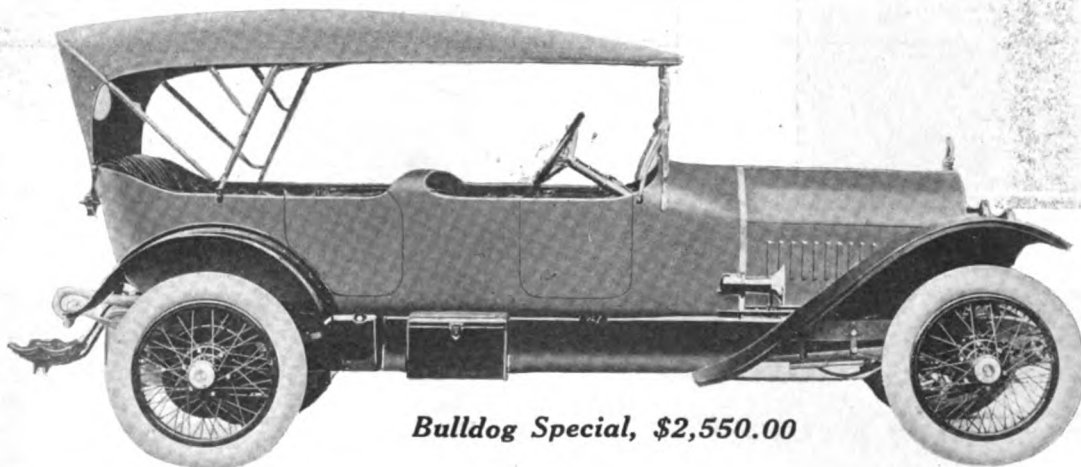
STUTZ

Stamina

American Design and Construction Vindicated at Minneapolis, Minnesota, September 4, 1915, when two STUTZ cars were entered and finished first and second, less than a car length apart (one-fifth of a second) averaging 86.35 miles per hour.

Beating every Foreign Car entered and establishing American Superiority.

Stutz Motor Car Co.
Indianapolis, Ind.

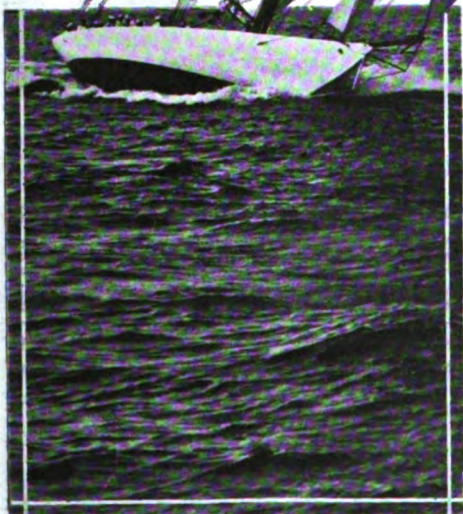


Bulldog Special, \$2,550.00

There is only one Herreshoff

Cup Defender RESOLUTE
Designed by Herreshoff

Photo by
M. Rosenfeld



THERE are hundreds of boat designers, but one name stands out head and shoulders above all the rest of the list—the name of Herreshoff. Just as the name Herreshoff stands for the superlative of class in boat designing, so stands the name Sheldon in the design and manufacture of springs—both for pleasure and commercial cars.

Sheldon superiority is but another illustration of the combining of art and science in one specialized field of endeavor to such an extent as to insure a product which is the superlative in its class. Anybody can buy wood and steel and canvas and rope, but only Herreshoff can combine those raw materials just a little bit better than anybody else.

Anybody can buy spring steel and spring machinery and heat treating furnaces, but only Sheldon can work out the raw materials into a finished product just a



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AND THERE IS ONLY ONE SHELDON

little bit better than anybody else. But unlike the acquiring of the conceded superior in most other lines, the acquiring of Sheldon springs does not entail an excessive first cost. In fact, Sheldon Springs generally will actually cost the manufacturer less than most other springs, provided

he will allow us to lay out and design such springs as will best meet the demands of his product. In fact, this we guarantee.

No matter how low priced your car may be, Sheldon Springs are commercially practical as equipment. For while in a few isolated cases first cost may be a little higher, the difference is so slight as to be unworthy of consideration.

And on the other hand in the majority of cases Sheldon Springs will show the car maker an absolute saving in cost, compared with any other springs manufactured. In either case they will show a far greater length of life than any other springs that can be purchased.

THE SHELDON AXLE AND SPRING COMPANY

Manufacturers of Springs and Axles for More Than 50 Years

WILKES-BARRE, PENNSYLVANIA

Chicago: 122 S. Michigan Blvd.

San Francisco: 444 Market St.

Detroit: 1215 Woodward Ave.

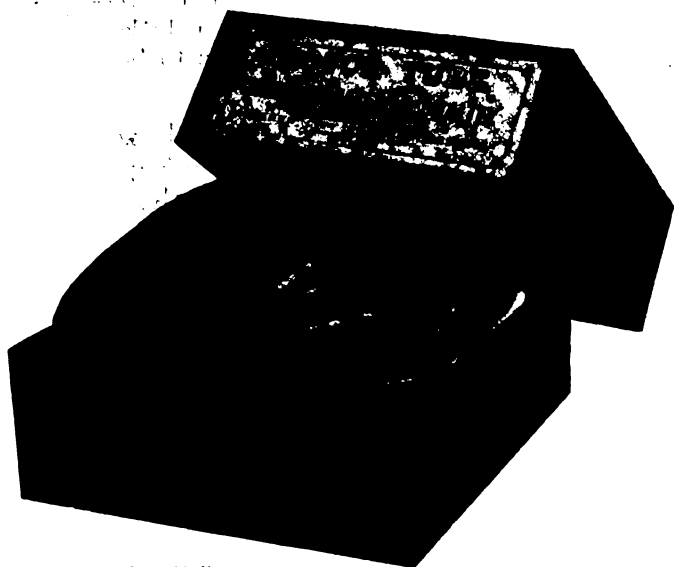
"Exhibiting Section 16, Transportation Building, Panama-Pacific Exposition, San Francisco"

"Repeat Orders" Build Business

THE dealer who depends on transient trade has a mighty shaky foundation.

The success of QUAKER Dealers is built on "repeat orders" and the protection of our "Square Deal" Policy of allowing a liberal margin of profit and restricting sales in allotted territory. And there are other vital features.

Let us tell YOU how to make more money. Address Mr. Carmint.



There are two ways to make an inner tube—one, the old crude machine method, using a single thickness of material; the other the QUAKER way of building up multiple plies of thin rubber, then "fusing" them into a thick wall.

To the most modern method of construction we add the finest rubber, **TEMPERED** by our secret formula and exclusive process—a combination that means prevention of air leakage and gives the tubes maximum tensile strength.

If you value your own safety, your car and your tires, you will use

QUAKER *Tempered Rubber* TUBES

We get back of our dealers with all the resources of our Advertising Department and give valuable help in building up a permanent and profitable business.

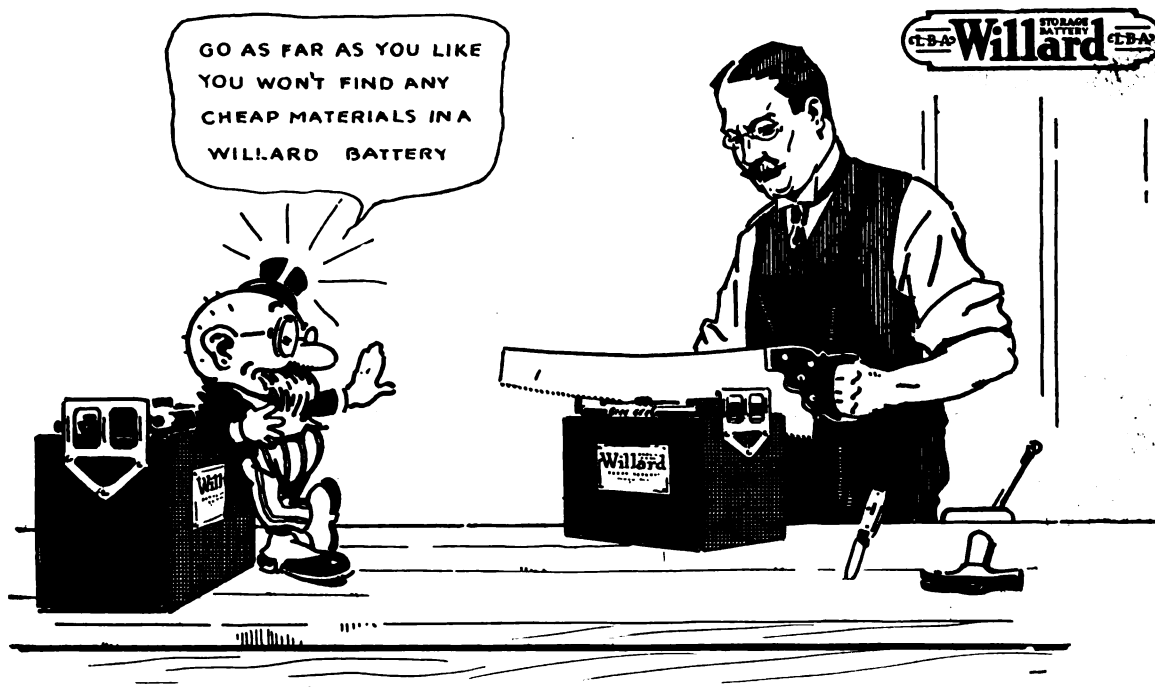
QUAKER CITY RUBBER CO.

Factory and Home Office **PHILADELPHIA**

CHICAGO
182 West Lake St.

PITTSBURGH
211 Wood St.

NEW YORK
207 Fulton St.



What's Under the Paint?

That's the important thing about a storage battery.

Cheap batteries and Willard batteries *look* just alike.

But if they were alike *inside*, 146 car builders wouldn't pay more for Willard.

It's the vital parts of a battery that determine whether the owner will have to resort to the crank and drive home in the dark or not.

It costs a little more for antimony that tempers Willard plates and makes them rigid—

For the careful selection of oxides that are coarse grained and knit together firmly to lessen disintegration—

For sealing not only between cells, but on top and bottom for double protection—

For hard oak boxes with locked and doweled corners that can't come apart and allow jars to break and acid to spill—

For rubber jars tested to 3600 pounds tensile strength and searched for defects with a 24,000 volt spark—

For lead and copper plating of screws and handles to make them acid-proof—

But these are precautions which make Willard different from cheaper batteries that don't have such safeguards.

The 146 car builders who specify Willard batteries take all these points into consideration and decide that *your* satisfaction is worth more to them than the few cents saved on cheap batteries.

"Truth Telling Tests" explains in a few words how to find out what's under the paint. **"Your Storage Battery, What It Is and How To Get the Most Out of It"** tells you how to get the most out of your battery. They're free. Ask for Bulletin P-9 and get both.

Willard Storage Battery Company Cleveland, Ohio

New York: 228-230 W. 58th St.
Chicago: 2524-30 So. Wabash Ave.

Indianapolis: 318 North Illinois St.

Detroit: 736-40 Woodward Ave.
San Francisco: 1433 Bush Street

Sole European Representative: The
British Willard Battery Co., Ltd.,
46 Poland St., London, W., England

Direct Factory Representatives In:
Philadelphia, Boston, Atlanta, Dallas,
Kansas City, Omaha, Minneapolis

Service Stations in All Principal Cities in the United States, Canada and Mexico



Don't Pay Good Money for a Private Brand !

Buy the Same Upholstery Covers From the Manufacturer and Save One Big Profit

MR. DEALER, think of the best Auto Upholstery Covers of which you have any knowledge. No matter what name these goods may bear or what trade-mark they may be sold under, the chances are that they are made by Warner. For twenty-two years we were manufacturers of Buggy Accessories. For the past eight years we have been large manufacturers of Auto Accessories and have made fully 95% of all Auto Upholstery Covers shipped out of Cincinnati. The output of our factory has been marketed by exclusive distributors who sold the goods under their private brands.

This was unfair to the dealers, who had to pay two profits

instead of one in order to secure our product, with its many features of exclusive superiority. It was unfair to the consumers, who were forced to pay exorbitant prices. It was unfair to the distributors, because they were building their reputation on a line of goods over which they had no permanent control. It was unfair to ourselves, because it limited our business expansion to the selling capacity of the favored distributors.

So we have refused to renew these exclusive distributors' contracts and have deliberately cut out the private brand business altogether. Hereafter we sell Warner Covers under their proper name and trade-mark.

WARNER AUTO UPHOLSTERY COVERS

FIT LIKE A GLOVE
DUST-PROOF WEAR-PROOF

Our retail list is only a trifle more than half as high as the retail lists of exclusive distributors who have been selling our goods under their own private brands. Our discounts to jobbers and retailers are fair and reasonable; they allow for a good margin of profit and a quick turnover. Our goods will be maintained at the same high standard of quality, style, material, workmanship and fit that has built the reputation of distributors who have been selling our goods as their own product. Our stock will be kept up to date and ample for all demands. We will make rush deliveries the same day orders are received.

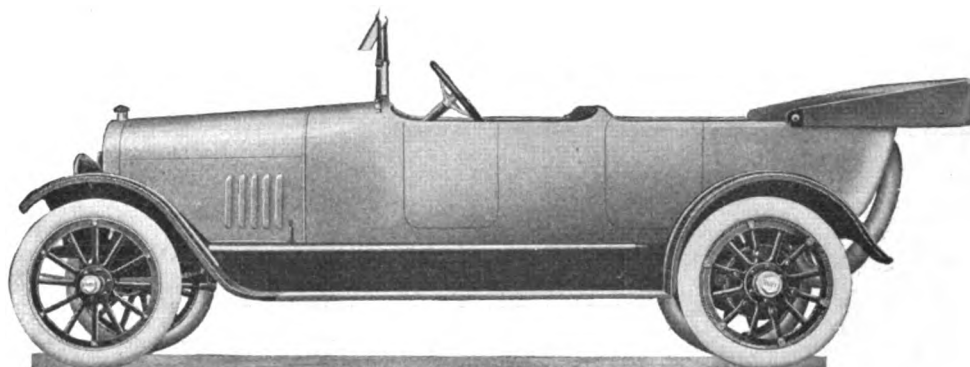
Here, Mr. Dealer, is your opportunity to cut out the tax that the favored distributor demands for the privilege of using his trade-mark on our goods. We do not ask you to load your shelves with a big stock of Warner Covers. But you owe it to yourself to write at once for our catalog, price-lists, trade discounts and samples of the various grades of materials of which our covers are made. Get our dealer helps and put yourself in position to command the cream of the upholstery cover business of your community by offering the best values at the lowest prices.

We have patterns for about all the leading American cars.

The Warner Auto Top Company

1640-1644 Central Avenue

Cincinnati, Ohio



ENGER TWIN SIX

12 Cylinder

\$1095

Territory Is Going Rapidly—

This is the first popular priced Twelve.

Thousands of dealers want to represent it.

Factory demonstrations are going on now.

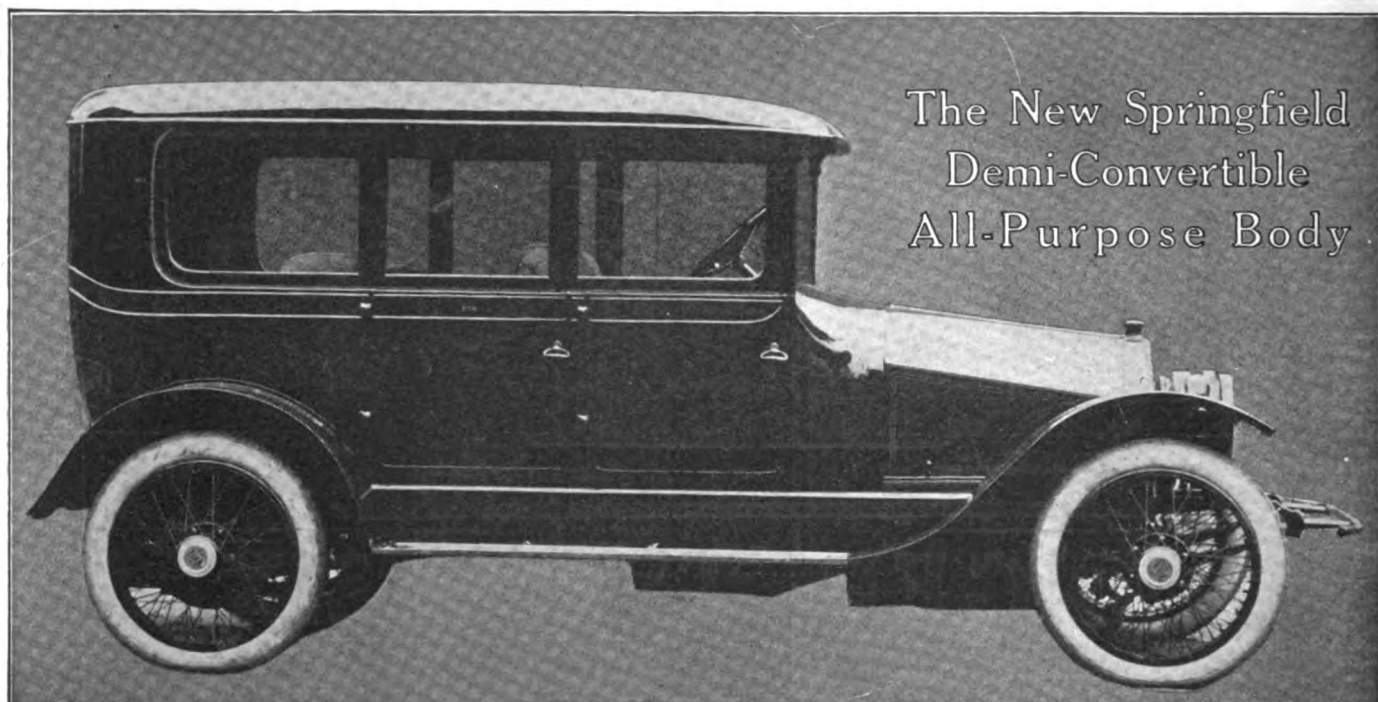
Come down, or wire us when you will, at once.

Drive this new Twelve yourself.

<i>Twin Six—12 Cylinders</i>	<i>Valve-in-head motor</i>	<i>115-inch wheelbase</i>	<i>Electric lights and starter</i>
<i>2½" bore x 3½" stroke</i>	<i>Cantilever springs</i>	<i>Pure stream line body</i>	<i>Complete in every respect</i>

Literature on request

The Enger Motor Car Co., Cincinnati, Ohio



Springfield Convertible Bodies possess the class and practical all year utility to help you make many a sale that you would otherwise lose.

Your first experience in handling the equipment of a car with a Springfield Convertible Body will show you how simple it is to make an added profit on every car you sell where the body equipment furnished by your manufacturer is inadequate to meet your customers demands.

Don't expect every sale to go through "as is." When you find one of your customers demanding something special—accommodate him—and make money doing so. Send for booklet and dealers discounts. Arrange to show at least one type Springfield Convertible Body in your salesrooms.

THE SPRINGFIELD METAL BODY COMPANY
Springfield, Massachusetts

New York Office: - - - - - 1737 Broadway

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REGAL

Announcement of Refinements of the 1916 Regals

PROGRESS is born of eternal strife for improvement —of forsaking yesterday's good for today's better. This, in brief, has, for more than eight years, been the steadfast policy of The Regal Motor Car Co. It is the reason why we are announcing the following refinements for the 1916 line.

Eight Cylinder and Four Cylinder Touring Car and Roadster, \$1200 and \$985.

WHEELBASE increased to 115 inches. Result, more comfort, better lines, more room.

GASOLINE TANK removed from mid-way under seat, to rear of chassis, using Stewart Vacuum System. Result, more convenience, more satisfaction and more safety.

GENUINE CANTILEVER REAR SPRINGS of ample length to insure unusually easy riding qualities.

LARGER BODY with more room in front seat and plenty of leg room. Lengthened hood adds greatly to appearance.

GREATER CAPACITY STORAGE BATTERY, now mounted under front seat, leaving both running boards clear.

MOTORS have been refined in several details which add to quiet running qualities and increase smooth delivery of power.

IN ADDITION to these important features we have made several other refinements of equipment and finishing which increase the value of the cars.

Light Four Touring Car and Roadster, \$650.

BESIDES these two models our Light Four at \$650 is showing up to every claim we made for it when it was launched last spring. As a selling proposition it has proved to be a wonder, and the ever increasing demand, in itself, proves that it is standing up and giving service. Its attractive design, its wonderful easy riding qualities, its completeness of equipment make the car a desirable automobile for a dealer to sell, from a financial standpoint and from the standpoint of giving your customers full value for their money.

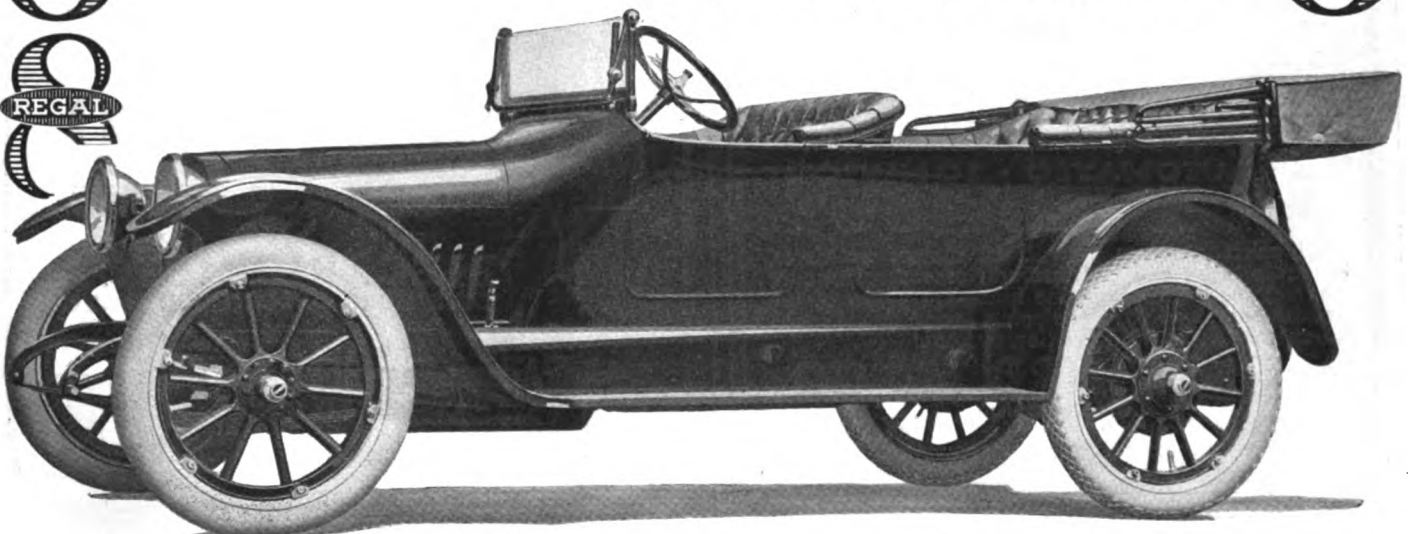
Sedan Tops.

"Eight" touring cars will be furnished with Sedan tops if desired. Unquestionably this feature will greatly increase the sale of Regal cars during the late fall and winter months. The jobs will be all that could be desired in a high class top, with electric dome light, handsome whipcord trimmings, removable window frames, etc.

Prices on Cars and Tops Complete on Application.

A REGAL AGENCY is now more desirable and profitable than ever.

THE REGAL MOTOR CAR COMPANY
404 PIQUETTE AVENUE, DETROIT, MICHIGAN



When writing advertisers please mention Motor World

Why Tire Repairers and Accessory Dealers Sell Shaler Vulcanizers

Reason No. 6

There is more profit in selling one Shaler vulcanizer than in doing the average motorist's tube repairing all season. There is as much profit in repair rubber as in the patches and gums the dealer is selling. Some dealers have the mistaken idea that selling small vulcanizers hurts their tire repair business. Possibly the small vulcanizer competes with the tube patches and gums that are being sold, but it brings more profit, so the dealer is ahead in the end. Dealers who have sold dozens of small vulcanizers say that they can't see any effect on their repair business.

For good measure here are a seventh and eighth reasons—

7. The motorist who gets the habit of mending small casing cuts with his own small vulcanizer sees the importance of having the repairman mend cuts that are beyond the capacity of the tourist's outfit. Result, more tire repair work for the dealer.

8. Somebody is very likely to sell the customer a vulcanizer anyway. Even if it were a fact that the dealer lost repair business by selling small vulcanizers, shouldn't he have the profit on the vulcanizer sales instead of letting his competitor get it?

SHALER Vulcanizers

can be carried with the car for making emergency and permanent tube repairs. Besides they mend small casing cuts, which if neglected would let in dirt and water to rot the fabric and cause blowouts. You can boost your reputation for selling good tires with every customer who cares for his tires with a Shaler. Every

Shaler you sell helps you sell more because the motorist praises his success to his friends.

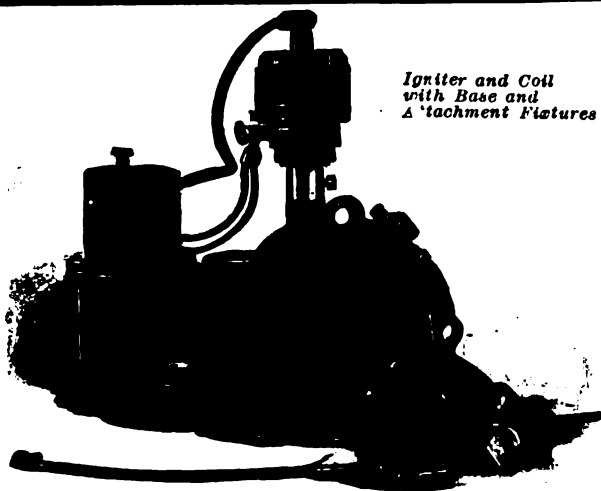
Shaler vulcanizers retail from \$2.00 up. There are models for every need heated by gasoline, alcohol, steam or electricity. We also make vulcanizing plants for repair shop use.

Write Today for Catalog and Terms

Send for our new complete catalog—dealers' discounts, terms, etc. We will also send you our book "Care and Repair of Tires."

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Canadian Distributors—John Millen & Son, Limited
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Igniter and Coil
with Base and
Attachment Features

Modernize Your Ford AUTOMATIC IGNITION CONNECTICUT

Full efficiency from your Ford motor; no timer, magneto, dash coil or vibrators; smoother running engine; more power on the hills—are a few of the results obtained by equipping your Ford with Connecticut, the 1915 ignition system.

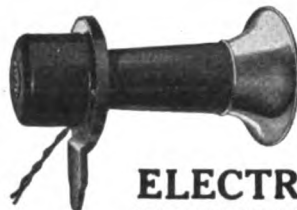
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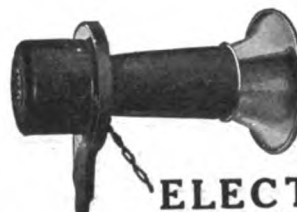
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ELECTRIC VIBRATOR
SAME HORN UNDER HOOD \$2.50



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ELECTRIC MOTOR
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By reason of its quality the Bosch Magneto may cost a trifle more than other ignition systems—but, considering its ability to serve long and well and to give efficient service irrespective of the knowledge or attention of the user, it is comparatively the cheapest ignition system made.

No car is too low priced to satisfy—to satisfy it must be Bosch-Equipt

Correspondence invited

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Over 300 Service Stations

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Our immense manufacturing facilities enable us to guarantee better value at the same price or equal value at a less price.

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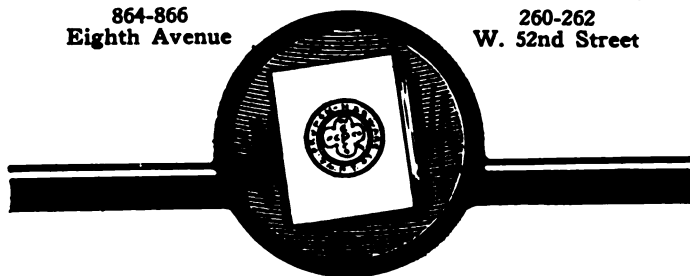
More Business

Every dealer wants to increase his supply business but not every one knows just why his business does not increase as fast as he desires.

A complete stock, good, honest quality and a buying price fair enough to allow a good profit are essentials.

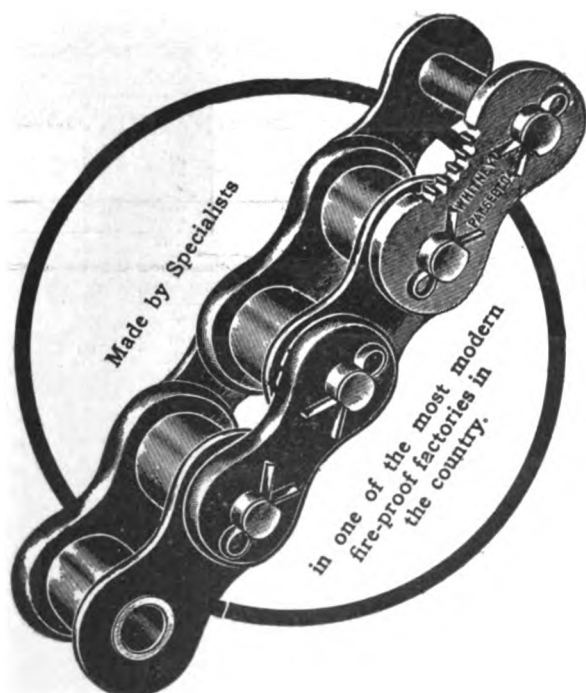
The W. E. PRUDEN HARDWARE COMPANY is helping many dealers to more business. Send for our new 260-page catalog and see what we can do for you.

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The Most Practical for Motor Trucks



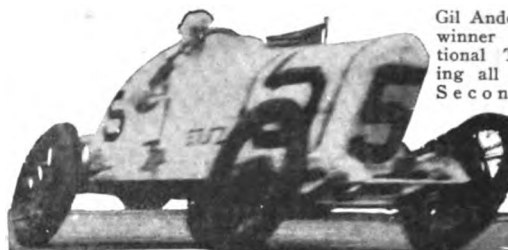
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Chains Keys Hand Milling Machines

Wisconsin

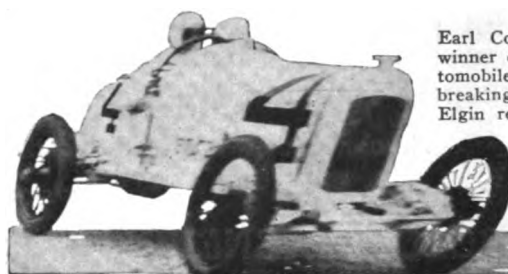
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Questions and Answers



RELATING TO MODERN
*Automobile Design,
Construction, Driving
and Repair*

BY
VICTOR W. PAGE, M.E.

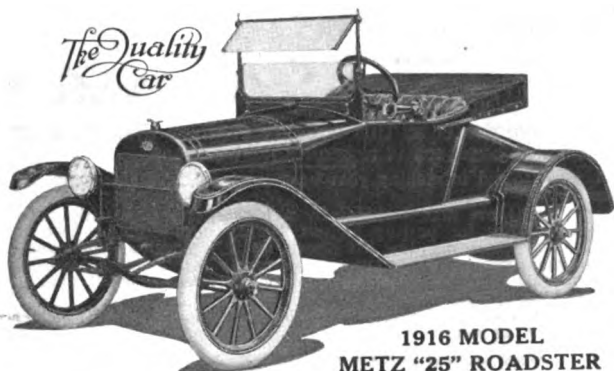
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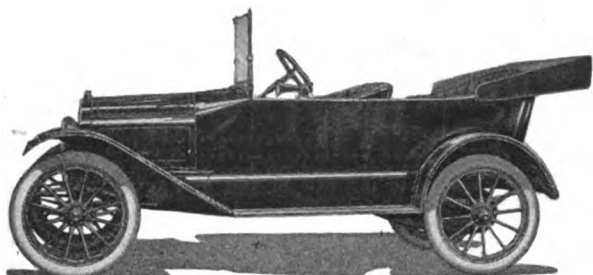


1916 MODEL
METZ "25" ROADSTER

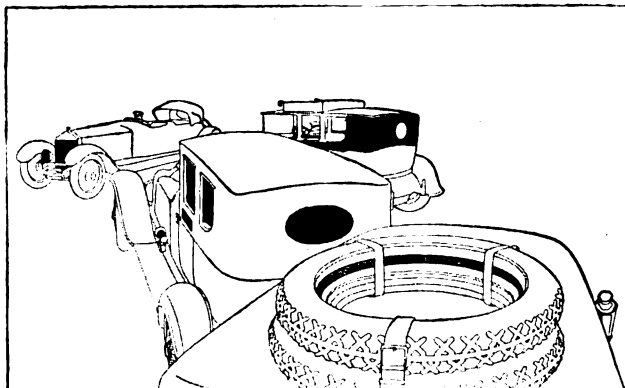
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1916 models. Price, \$600 each, completely equipped. Both Roadster and Touring Car built on same chassis, 108-inch wheel base, and carry identical equipment, including electric starter and electric lights, 25 h.p. water-cooled motor, large wheels and tires, rain vision wind shield, instant one-man top, speedometer, built-in gasoline gauge, signal horn, etc. Write for DEALER particulars and new illustrated catalog "B."

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automobile tires are made slowly and carefully by hand because we are more interested in making good tires than in what they cost to make. Kelly-Springfield Tires are dearer to buy but cheaper to use. It all comes out in the mileage.

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Branches in all principal cities

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Name

Address



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Handsome—Powerful—Indispensable

Attached to windshield turn at any angle, enabling the motorist to see on all sides by a turn of the wrist. Quickly and easily operated by switch on handle.

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'is the other name for

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We want to aid in making your business more profitable—and we can do it.

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Most Liberal and Livable Discounts to the Trade

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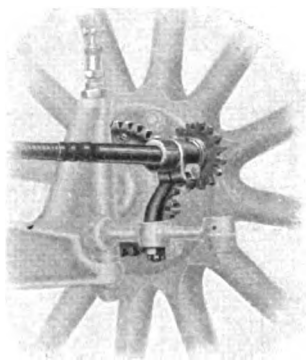
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Bracket
Type
for FORDS

Equipped with the same standard type of front wheel drive as was supplied by the Ford Motor Company on all 1915 Fords. Equipment also includes a heavy armored casing.

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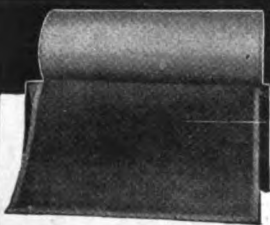
Ford Touring Car 440.00

Ford Town Car 640.00

No speedometer included in this year's equipment, otherwise cars fully equipped.

Ford Motor Company
Detroit, Michigan

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Goodyear Repair Fabric is heavy Egyptian fabric, impregnated with fine quality friction.

Four features have made it the largest selling fabric in the world. It is made of long-fibre cotton, giving utmost strength and durability. It passes rigid inspection for flaws or defects. Only the highest grade friction is used—nearly pure gum. And then the fabric is calendered. Yet the price of this Goodyear Fabric, because of enormous production, is no higher than for fabric of lesser worth. There is a big profit in tire accessories if you handle a line that stays sold. Send for Goodyear Accessory list, with your prices and profits. Address Desk 116



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Makers of Goodyear Fortified Automobile Tires (2607)

1916

\$850



Same
Car

New
Price

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SHOCK ABSORBER
*For Comfort, Safety,
Economy.*



THE *HARTFORD SHOCK ABSORBER

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"I Won Des Moines Race"

Using Rajah Plugs. Worked great. They are the plugs."

(Signed) **Ralph Mulford**

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Rajah Spark Plugs

Ignition Absolutely Sure!

New Waterproof Plug, \$1.50 Postpaid. Rajah Giant Plug, \$1.50. Rajah Standard Plug, \$1.25. Postpaid.

Rajah Auto-Supply Co., Bloomfield, N. J.
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KNOWN the world over as the zenith of simplicity and efficiency.

A precision instrument giving permanently, exact carburetion for your car.

Zenith Carburetor Co.
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Your Share of Xmas Business



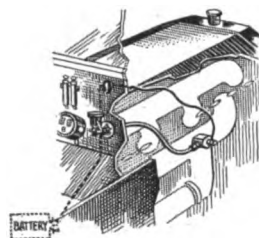
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Can you think of a more appropriate gift for the car owner? Thousands of people will pronounce it the "very thing" to give their friends.

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Automobile Lamp Department,
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A Great Convenience



Easy to Install

IECO Electric Manifold Plug Starts Car Quick on Cold Days

Puts a hot mixture into the engine and vaporizes and the engine goes at once. Saves back-breaking cranking and if you have a self starter keeps you from using up your battery. The Ieco Manifold Plug enables you to prime from the dash. It can also be used to flush the cylinders and valves, clearing them of carbon deposits. When used as an auxiliary air plug (using no current) it saves 25 per cent gasoline. It is economical, simple, can be installed in an hour by a good mechanic—guaranteed against burn out for two years. If not as claimed money will be refunded. Descriptive circular upon request.

PRICE complete with all attachments **\$5.00** In Canada **\$6.50**

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Big Demand for It

We are now undertaking an extensive advertising campaign in the Saturday Evening Post and the leading trade papers and there will be a demand this fall for this accessory. You can sell it easy. Dealers wanted in every city. Write for full particulars.

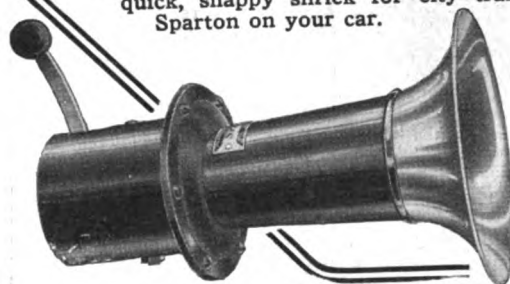
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Have the far-reaching call for country roads—the quick, snappy shriek for city traffic. Use the Sparton on your car.



Model "F"
\$4.00

Finished in satin black and nickel or all black.

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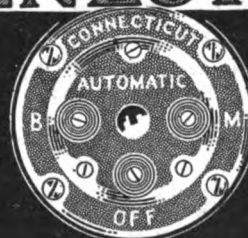


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GUARANTEED FOREVER

Combination, \$1.25
Big Boy\$1.00 Regular\$.75
Priming 1.25 Platinum Point.. 1.50
EMIL GROSSMAN M'FG CO., Inc.
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Gives the most effective spark at every speed for four, six or eight cylinder motors.



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Also—these cans prevent loss by evaporation and are so well made and reinforced that they will outlast 20 ordinary containers.

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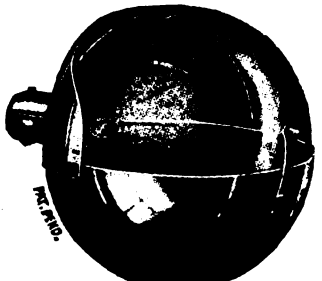
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"It leads the leaders"
THE LEWIS SPRING & AXLE CO.
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Interchangeable with all Stems

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Single Valves Five Cents

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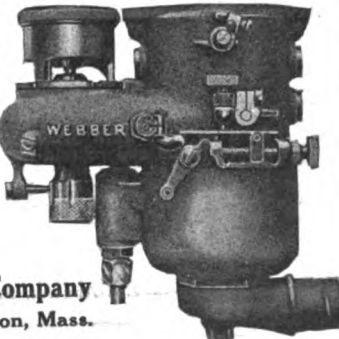
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Ask us to tell you how and why it is better.

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GREATER MILEAGE**

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By igniting the mixture at two separate points it makes combustion very much quicker. It gives a wonderful increase in power, saves gasoline and greatly reduces carbon deposit. **TWO-PLUG** Ignition is produced by adding one

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SU-DIG Series Plugs are nationally advertised. Write for special dealer introductory offer and selling helps.

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Salesmen wanted to carry SU-DIG Plugs as a side line



HORN and FAN Combined

MOTOR DRIVEN



Oakes

Gets the Roads

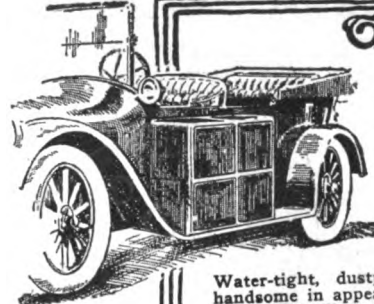
No gears, motor, batteries or wires to give trouble. Gives warning signal by merely pushing the button at driver's seat. Increases efficiency of fan and motor. Keeps radiator cool. Never fails to sound. Long life. Is easily interchangeable with fan on any Ford in a minute's time. Most reliable and safest horn. Write for dealer's proposition.

\$5

Beartone
Sounds Thru Radiator
for FORD

Fan-Horn-Pump \$12.50
Fan-Pump - - - 7.50

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The Baggage Carrier that comes in sections like a sectional bookcase. You carry as many sections as you need. Each one enclosing a large size removable suit case.

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F. O. B. **\$1375** Factory

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Ball Bearings
Double Row—Self-Aligning
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SPARK PLUGS

A greater sum of the essentials to unailing service and complete satisfaction will be found in VIKING design and construction, than in any other plug at any price.

Buy VIKING PLUGS as an insurance of service

Price \$1.00 each—all styles

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Reground - Exchanged At an 80% Saving to You

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BEST UNDER A CAR - BEST ON EARTH

Will establish you in business on a permanent and profitable basis.

Our Policy:
One good dealer in each territory, backed by the best goods and unlimited co-operation.

New Jersey Car Spring & Rubber Company
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Carspring Tires are permanently non-skid



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The
Schatz
Mfg. Co.
Poughkeepsie, N. Y.

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"Universal" Annular Ball Bearings do more; they sustain 50 per cent of their radial capacity under thrust load.

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"QUICK CHANGE"

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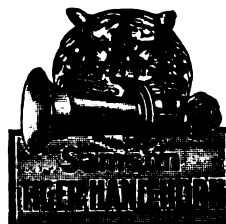
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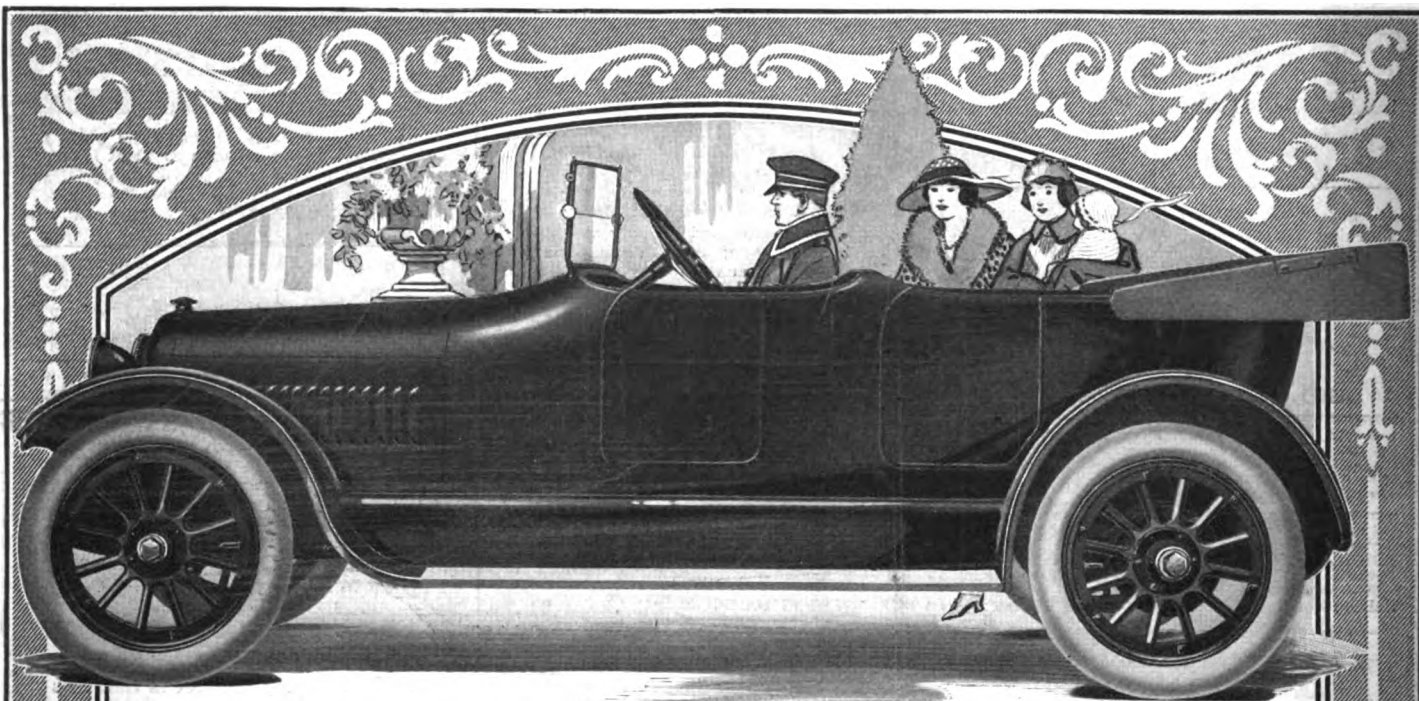


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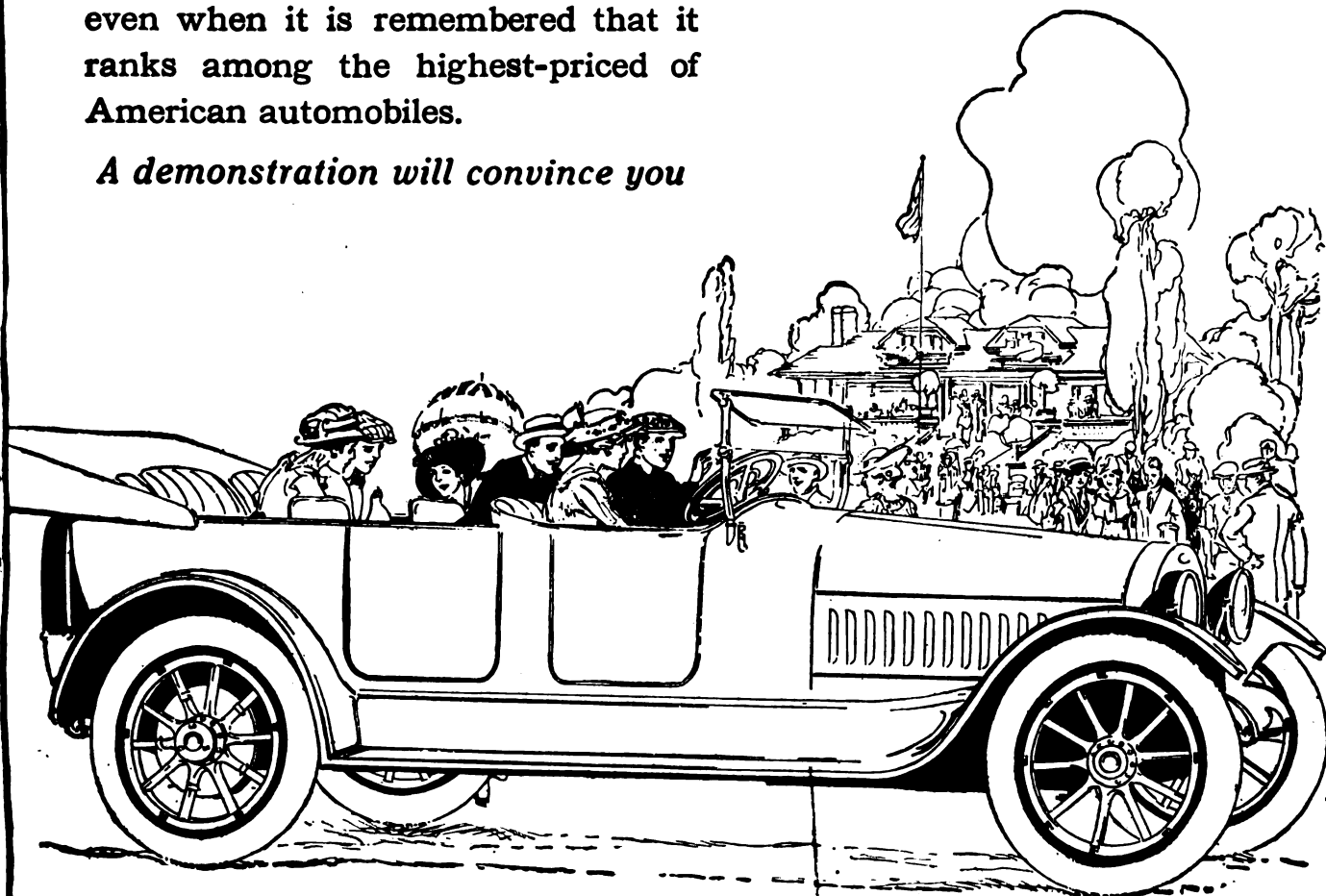
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